NOT TO BE TAKEN AWAY

THE

BRITISH JOURNAL

OF

CHILDREN'S DISEASES.

VOL. VII. OCTOBER, 1910. No. 82.

Original Articles.

AT WHAT AGE SHOULD THE EDUCATION OF THE DEAF CHILD COMMENCE ?*

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IN this paper it is neither my intention nor wish to encroach upon the opinions of those who, engaged upon the arduous work of educating the deaf, are entitled by experience to speak with authority, but rather to open a discussion upon the important question of the age at which that education should commence and to bring thereto what help I, as a medical man, can offer.

I shall, therefore, first review very briefly the courses followed by different countries, and, in comparing the education of the normal with that of the deaf child, offer certain observations which seem to me to give strong physiological reasons for commencing the education of the deaf at a much earlier age than has hitherto been considered advisable, using the term "education" in its physiological rather than in its pedagogical sense.

Legislators stand in urgent need of information and guidance, which only the experienced teacher and the experienced doctor combined can give, and the proposal to be made at the conclusion of this

* Paper read at the Third International Congress on School Hygiene, held in Paris, August, 1910.

paper is intended as an endeavour to provide this information with a view to advance the oral education of the deaf towards its proper goal—ability to march abreast with the normal population.

Space will allow of an enumeration only of the ages at which education is compulsory in different countries and states.

According to M. Adolphe Bélanger,* it appears that in France the age of admission to the schools varies considerably, and the general effect is to reduce it. Although some pupils commence at six years and sometimes earlier, circumstances seldom allow them to enter the schools before eleven or twelve.

Signor Ferreri has pointed out that in Italy "there is no law to oblige the Government, on the one hand, to give, and the deaf, on the other hand, to receive an elementary education," so that 73 per cent. remain in ignorance and isolation.

In Germany children attend compulsorily from the age of six to fourteen.

In Denmark instruction commences at eight; in Holland at about seven, under certain circumstances even a little less.

In the British Islands the majority commence at about seven, but in some schools they are received at five. In England it is compulsory that all deaf children should begin their education at seven, but a Government grant can be obtained for them if they enter at five. Ireland lacks any legislation on the subject.

In the United States a somewhat better state of things exists, and requires more attention here. Few schools, it is true, receive children earlier than seven, but there are pupils in the Pennsylvania Institution for the Deaf and Dumb one year younger. Dr. Kerr Love has remarked † that experimental work upon a colossal scale is being pursued in America, and that the orally taught deaf of the United States are the best taught deaf in the world. Moreover, there is a tendency in America not only to keep the deaf child at school later in his life, but—and this is of immense importance—*to take him in hand very early*. This is done at Boston under Miss Fuller, at Chicago under Miss McCowan, and at Bala (near Philadelphia) under Miss Garratt. The latter lady, taking children at four, three, or even two years, claims that they can enter ordinary hearing schools six or eight years later. This school is spoken of very highly by Dr. Kerr Love and Mr. F. G. Barnes, although I understand that both these gentlemen doubt the wisdom of handing such seriously handicapped children over to ordinary hearing schools.

* International Conference held in Edinburgh, 1907.

† 'The Study of the Deaf Child.'

I have no desire to express any opinion as to the wisdom of taking children early for oral training with the intention of transferring them later to hearing schools, because I have no practical knowledge thereof and do not care to form any judgment thereon from printed reports or from hearsay evidence. But I do believe that the practice, which appears universal, of making no effort for compulsory training before six years or even later, is the greatest mistake and the most potent cause of failure in the oral training of the deaf.

This view I must endeavour to substantiate to the best of my ability. To do so, the physiological education of the normal must be compared with that of the deaf child.

Between the ages of two and seven the hearing child is rapidly developing, whilst his deaf brother is at a standstill. To you I need not insist upon the fact that between these ages the hearing child is receiving items of education, every minute of his waking life, through the channels afforded by his organs of hearing, so that not only are speech and language being continuously impressed upon his cerebral cortical centres, but they are by ceaseless reiteration becoming stored up both as sensory and motor memories. By this constant repetition, and by the intimate relation between the language appreciating centres and the language producing centres, speech becomes automatic before the education of those centres which are concerned with writing and more difficult language training begins, centres which are of later development in the history of the race than are those of mere speech, and which are preceded in the normal child by a pre-speech era of gesture language. It is this pre-speech era of gesture language which becomes more fixed and, therefore, easier of use in the deaf child, to the detriment of oral training. This fact of automatic speech is of great importance, and I think that, by training the speech centres in the deaf at an earlier age, we might help them at least to approach the automatism of the hearing child.

The inestimable value of hearing in the physiological education of the speech centres in the normal child is strikingly demonstrated when we compare the blind with the deaf. Although the former defect receives considerably more sentimental sympathy from casual observers than does the latter, the blind child has far less difficulties in education. It is true that one of the main entrances of instruction is closed for him, but it is one by which general effects rather than exact thought impressions reach his brain. So long as he has hearing, his speech progresses with practically the

same rapidity as in the normal child, and in this regard his intellectual development proceeds at a nearly equal rate. The congenitally deaf child obtains his general effects though his visual organs, but, by reason of his aural defect, he can neither obtain expressions of exact thought nor formulate his own thoughts in exact terms. Consequently he begins his school life at seven in the intellectual condition of a child of two. In plain words, for five precious years his intellectual development is arrested, and this is, as Dr. Kerr Love points out, physically expressed by his relatively smaller head.

There is yet another important fact—the question of *hereditary tendencies to speech.* We represent the, at present, "last word" of a long line of speaking ancestors, a line so long that the first members thereof who could speak must have existed untold ages back in the world's history. Such an evolution has slowly elaborated those portions of the central nervous system concerned with speech from the very beginnings of our remote ancestry, and the power of developing similar structural connections of nerve-cells and fibres has been handed down through countless generations and rendered more and more perfect by each, until we have been born with a potentiality of developing as complex and perfect nervous arrangements as those of any individual who has preceded us. Thus has the centre for speech been made apt for expressing exact thought, and this was strikingly evidenced when Miss Helen Keller made the demand, "I must speak," a demand which also demonstrated that, not only is there an hereditary tendency to speak, but also an hereditary tendency to develop the general faculties *through* and *by* speech. Are we not neglecting an obvious duty, as well as opportunities, when we take no heed of these hereditary tendencies? We ignore them whilst the deaf-born brain is still plastic, suffering them to remain dormant and to perish from inanition. Are they not equally as precious as the "rests of speech" we seek to foster in the child who has become deaf after speech has been already partially acquired? Or as valuable as any remains of hearing in the semi-deaf?

On these arguments I contend that an education of the deaf should be made compulsory at a much earlier period than is at present customary.

At a council of (British) headmasters held in 1904, it was resolved to be desirable that deaf children should be placed under proper training at or near the age of five years, and the Norwich Conference of the (British) National Association of Teachers of the

Deaf in 1905 further resolved that this earlier education should be made compulsory. A protest from certain teachers elicited an eloquent rejoinder from Mr. Arthur J. Story, in which his conclusions so thoroughly coincide with my own that I venture to call them to my support for compulsory training at an earlier age.

I would summarise my arguments as follows:

(1) The child who is normal, save for his deafness, is engaged in a continual struggle to make himself understood and to understand those about him; but, unlike the hearing child, his natural yearnings—including his hereditary tendencies to speak—have to go unsatisfied. The deaf child finds some form of expression essential and endeavours to evolve one which can act as a vehicle of thought. Without oral speech he has to elaborate that gesture language which I have already mentioned as belonging to the pre-speech era, and, thus suppressing the play of hereditary speech tendencies, substitutes gesture for speech, a substitution which renders the later acquisition of speech more and more difficult as time goes on. Even if the earlier speech training which I advocate did not obviate this expression by gesture, we should, at least, give the child the opportunity of becoming bi-lingual, thinking simultaneously in elementary speech and signs.

(2) The hearing child develops intellectually without any special care, and he physically outgrows his infancy at about five years of age. Why, when it is in our power to make him early aware of speech as a means of intercourse and for the expression of his ideas, should we prolong this mental babyhood beyond that of the hearing child by denying him an earlier training? Why should he be forced to remain infantile in mind and denied the means of mental development?

(3) The plastic brain period of the child is past at seven years, and to delay physiological education until that time is like attempting to model clay that has become dry, save that the clay can be wetted anew, whilst the brain-clay of the child is past moistening. Moreover, the muscles which control the speech organs become to some extent atrophic from disuse if not developed—a circumstance which cannot fail to react disadvantageously upon the speech centres. "Is it not necessary," asks Bélanger, "to use the larynx as soon as possible? That delicate organ which ought to be the pivot of our method of instruction!" The bad effects of the neglect of the speech organs under our present methods of oral instruction when the plastic period is past are plainly shown by the artificiality of speech taught when the vocal organs have been for years in comparative idleness.

(4) The importance of "rests of speech" is universally recognised, and they can be irrevocably lost by neglect. Why should we not recognise the equal value of the hereditary tendencies to speak and to develop the faculties of intelligence through speech, assets which are, probably, more quickly perishable.

(5) It is acknowledged by law and practice that hearing children should begin their pedagogical education at five years. Why should not an equal right be accorded to the deaf? But, further, the hearing child is receiving what I have termed "physiological" education at a much earlier age, and I claim that the deaf child has an equal right to this early physiological education, and, as it requires to be carried out by those who are experienced in deaf teaching, it should be provided by law. I would remind you that the deaf child of all classes of children can least afford to lose the full advantage of his most impressionable years, and that these years are, physically and physiologically, the most appropriate for the commencement of suitable instruction.

(6) It is possible that, by means of earlier training, the automatic speech attained by hearing children might be at least partly attained by the deaf. This automatism would be materially assisted by the "synthetic" lip-reading, which must be developed in any form of oral teaching. To lip-read with facility requires practice, and the earlier this practice is called into regular use the quicker and more certain it is liable to become. Such facility in lip-reading gives the child command of a means of acquiring new language by sight, a method second only in usefulness to hearing.

Although I am not wholly inclined to believe that sight can ever be made completely to supplant hearing, I do believe that by special direction and assistance at a sufficiently early age the visual centre might be made a substitute for the auditory centre as a stimulus for the speech centres. It could, I am sure, be made a centre for the appreciation of language, which would act in relation with that for the production of language.

It scarcely comes within the province of this paper to speak of the method by which this earlier physiological training should be carried out, but I think that it should be of the nature of kindergarten classes, under experienced teachers of the deaf. These should use elementary articulation lessons calculated to encourage deaf children from the age of three years to chatter at their play, to encourage baby prattle about games, toys, and such matters of infantile interest. Set lessons, during this physiological stage of the deaf child's training, should be conspicuous by their entire

absence ; they should be rigidly banished until the child enters, with some elementary language which he can express orally with a certain ease, upon the pedagogical stage. During this physiological kindergarten stage of instruction special attention should be paid to language forms, which are most easily lip-read and imitated, always remembering that easy articulation should be used most freely. Unless the terms and phrases most easy of articulation and most easily understood by the child are made the dominant feature of the teaching, there would be a danger of laying a foundation of bad articulation, a danger which would neutralise part of the good accruing from this proposed early teaching. I would emphasise the paramount necessity of employing only teachers of proved experience, teachers able to gauge the necessities of the child, able to enter into his mental processes—in other words, to see with his eyes—and able thoroughly to *interest* him and to make him realise the value of spoken language as a method of communication. The words and phrases which could be grasped synthetically and reproduced with a fair amount of accuracy would come first, the difficult "elements" taught by articulation lessons being gradually led up to and introduced.

If there is any possibility of the visual centre being trained to take up the duties of the auditory centre, this early physiological course would take full advantage of it and would train the child into a *habit* of using his eyes in place of his ears. The possible danger to which I have alluded of laying a foundation of bad articulation could be obviated by the experienced teacher, and the chief aim should be to obtain a facility and fluency of speech which would prevent that artificiality so often complained of as characteristic of speech in the deaf.

I am aware that I shall be adversely criticised by some for wishing to drag the deaf child to school at the age of three, and that I may be accused of a desire to take the child from its parents. Therefore I wish to point out that the physiological education of the deaf pre-eminently necessitates a special teacher, and that no parents, however well-meaning, can carry it out, unless they are themselves experienced teachers of the deaf. I believe the object I advocate could be attained by short school hours with plenty of play, say five half-days a week, the child being absent from its parents only during those times. Parents would soon become impressed with the advantages their children were receiving and could help the teachers at home, indeed, some parents have expressed themselves to me as wishful for such an arrangement for early training.

I believe that, under such circumstances, whilst brain and larynx are more plastic than at seven, the speech centres could be stimulated to development, and that the hereditary tendency to speak could be preserved, encouraged, and fully utilised. Surely such a course would give better oral results, fewer oral failures, lead to an improved classification, emphasise individuality, make the deaf child more nearly approach to the normal child at seven years, and enable us earlier to distinguish the mentally deficient and the mentally deficient deaf.

Although I have practically confined my observations to the congenitally deaf, I would include in this early training those acquired cases who, having lost their hearing at two years and onwards, become, under existing conditions, mute before seven years.

In conclusion, I would propose for your consideration and approval the following resolution:

"That it is the strong opinion of this section of the Third International Congress on School Hygiene that the oral education of the deaf child should commence at the age of three years, and that the ultimate success of deaf education would be greatly enhanced thereby."

IDIOPATHIC ACIDOSIS IN CHILDREN.

By J. Gordon Sharp, M.D.Edin.

I have used the term "idiopathic acidosis" because in the cases I am about to describe I can find no anterior condition to account for the acidosis. Acidosis, or at least one of its most important signs, acetone in the breath and urine, may be met with in the course of fevers, diabetes mellitus, locomotor ataxy, nervous diseases generally, intestinal obstruction, after the exhibition of morphine and other poisonous alkaloids, and after ether, chloroform, ethyl chloride, nitrous oxide gas, and other anæsthetics. Now, in idiopathic acidosis no cause can be assigned for the condition; and if one may not regard it as a pathological entity one is at least justified in describing it as a condition attended by many sharply defined signs and symptoms.

Acidosis may be defined as an acid intoxication of the blood and other tissues by, it is believed, β-oxybutyric acid. The other names by which acidosis is known are cyclical vomiting, acetonuria, and

acetonæmia. The last term is now known to be a misnomer, since acetone does not appear in the blood, or at least, it is not *the* erring body ; acetone is found in the urine, and is the result of the break-down of some other body.

Ætiology and pathology.—In health, acetone, or, more properly, ketone, CH_3COCH_3, is found in the urine in trifling amount, varying from $\frac{1}{7}$ to $\frac{1}{4}$ gr. (9 to 16 mgrm.) in the twenty-four hours. Acetone is derived from diacetic acid, CH_3COCH_2COOH, the decomposition probably taking place before the urine reaches the bladder, and in health it is doubtful if any is ever found in the urine that has been passed. If any does pass in the urine it is soon broken up, so that a urine which gives the reaction for diacetic acid will in ten hours give none, this body having been split up into acetone and carbonic dioxide. If the two formulæ given above be compared it will be seen that diacetic acid is simply acetone + carbonic dioxide.

The third substance which requires mention in the present connection is β-oxybutyric acid, $CH_3CH(OH)CH_2COOH$, which contains one atom of oxygen more than ordinary butyric acid. In health it is represented in the urine by its decomposition product, diacetic acid or acetone.

In acidosis, acetone is present in the urine in amounts varying from fifty to a hundred times that met with in health, and it is accompanied by diacetic acid and β-oxybutyric acid which have escaped decomposition. This leads up to the question: To what is the poisoning due, the symptoms of which are vomiting and the presence of acetone in the urine? Certainly not to acetone, for acetone does not appear in the blood and tissues generally, for both acetone and diacetic acid are the decomposition products of a more complex substance. This body is now believed to be β-oxybutyric acid, and hence the condition has been called acidosis or acid intoxication. It is important to mention the odour of the breath. It resembles the odour of a dilute solution of one of the butyrates, or of a room in which chloroform has been allowed to evaporate. It is probably due to β-oxybutyric acid and its decomposition products, diacetic acid and acetone. The poison is given off in large amount by the lungs.

This is as far, then, as one can go at the present time, but future investigation may show that β-oxybutyric acid is only one of the decomposition products of some other body which is the causal agent in acidosis. In the meantime one may say that the drowsiness and the vomiting are due to this acid. The erring body is

eliminated by the stomach among other channels, and hence the vomiting.

Whence comes the β-oxybutyric acid? Till recently it was held to be derived from broken-down fats, and it was believed to be present in the tissues in large amount when carbohydrates were withheld from the dietary, and one of the suggested lines of treatment was to supply plenty of readily assimilable carbohydrate in the shape of glucose. But acidosis is met with when there appears to be a great waste of muscle, as in fevers, in starvation, and after an exclusive meat dietary. Further, after an attack of acidosis the muscles are found to be wasted. All these points appear to lend support to Naunyn's view that β-oxybutyric acid is derived from broken-down protein tissue.

Starvation, fevers, and an exclusive meat diet induce what one might call traumatic acidosis, and as soon as the cause is removed the acidosis ceases; and one has now to try and account for the cases spoken of as idiopathic acidosis. Some poison, or shock, or strain may so upset tissues susceptible in the direction of their metabolism. On the poison side one might call in the aid of analogy, for ether, chloroform, and other anæsthetics often induce acidosis, which may be slight or fatal according to the amount of damage done to the tissues. In support of the view that shock or strain may cause acidosis, one can point to the fact that these factors do cause diabetes mellitus, and the shock or strain may be mental or physical (influenza). Is metabolism assailed in its lower plane in the cells of the liver, spleen, pancreas, etc., or is the central controlling centre affected? In mild and curable cases it may be the former, and in severe and fatal cases the latter.

When one considers the complex process of metabolism, the wonder is not that its equilibrium is upset, but rather that it is not more frequently upset and permanently damaged. On the analytical side we find that insoluble fats must be changed into soluble soaps by hydrolysis; insoluble proteins have to be hydrolysed into soluble peptones and later into amino-acids, and insoluble carbohydrates have to be hydrolysed into soluble sugars. On the synthetical side we find that the amino-acids have to be re-converted into peptones and later into less soluble proteins, sugars have to be re-converted into less soluble substances, and soaps have to be re-formed into fats for storage in the tissues.

Tests for acetone, diacetic acid, and β-oxybutyric acid.—Although the presence of acetone in the urine is a sign of acidosis, it is important to be able to recognise the other two named. For exact work

the urine should be distilled, when all three substances will come over in the distillate and be free from the colouring matters of the urine. All heat (apart from distillation and for the purpose of confirmatory tests) should be avoided, for the agents with which we are now dealing readily pass off in vapour.

(1) *Acetone (or ketone) : Legal's test.*—Three to five drops of a saturated solution of sodium nitro-prusside are added to a test-tube containing two to two and a half fluid drachms (8 to 10 c.c.) of distillate or of the freshly passed undistilled urine. To this is added one or two (at the most) drops of solution of either potassium or sodium hydrate to render alkaline. A ruby-red colour appears with most urines (supposing urine to have been used in the test), owing to the contained creatinine. The urine is next rendered acid by adding one fluid drachm (about 4 c.c.) of strong acetic acid. If acetone be present the ruby-red remains or deepens, while if no acetone be present the coloration disappears in a few minutes. This is the best test, since it is not too delicate; the reaction does not appear with alcohol or aldehyde.

Lieben's iodoform test.—This is a delicate test, and is also given by alcohol and aldehyde. Of course in warm weather alcohol may be present in diabetic urine, due to fermentation of glucose. Take two to two and a half fluid drachms of urine or distillate and add to it one fluid drachm (about 4 c.c.) of a solution of iodine and potassium iodide (iodine 5, potassium iodide 15, distilled water 500—that is, about 5 and 15 gr. respectively to the fluid ounce). Add also about one fluid drachm of solution of potassium or sodium hydrate. Crystals of iodoform form, stick to the sides of the test-tube and slowly collect at the bottom. They may be recognised by the odour, colour, and by their microscopic appearance in the shape of hexagonal and stellate plates. The test-tube should be set aside in order to allow the test to develop.

(2) *Diacetic acid : Gerhardt's test.*—To 75 to 150 minims of distillate or urine (about 5 to 10 c.c.) is added drop by drop an ordinary solution of ferric chloride till no further precipitate of ferric phosphate falls down. The fluid portion of the test-tube will have a purple-red colour of ferric acetate if diacetic acid is present. Should there be any doubt about the colour the urine should be filtered through paper into a clean tube, and if this be held against a sheet of white paper all doubt should be removed. *Fallacy :* Certain drugs, such as salicylic acid, salicin, the salicylates, antipyrin, phenacetin, and others of the coal-tar series, when taken are passed in the urine in an altered form and give a like colour reaction with

ferric chloride, and hence a confirmatory test is necessary, as follows : If in testing for diacetic acid a positive reaction has been obtained, another portion of urine should be taken and boiled. This will drive off diacetic acid, and if ferric chloride be now added to this boiled urine no colour reaction will be obtained if the reaction previously obtained with urine in the cold was due to the presence of diacetic acid. Boiling has no effect on the salicylic acid and other substances named, and ferric chloride gives with them the colour reaction with both boiled and unboiled urine. Distillation would also remove any obscurity, for while diacetic acid would pass over in the distillate, salicylic acid and the other bodies which gave the red with ferric chloride would remain in the retort.

(3) *β-oxybutyric acid.*—This may be found in the urine provided it has not all been broken up into diacetic acid or acetone. Its detection is a fine point in pathological chemistry, and need only be briefly referred to, for the test is not important in the present connection. It rotates a ray of light to the left, and hence may be detected by means of the polariscope. Its presence may affect the polariscope reading in estimating glucose, and in like manner the presence of glucose may effect the polariscope reading of β-oxybutyric acid. Glucose can be got rid of by (1) adding yeast to cause fermentation, whereby all glucose is converted into alcohol and carbonic dioxide, and (2) by next adding lead acetate and ammonia; all substances which would turn a ray of light to the left are removed, except β-oxybutyric acid. The filtered urine is next examined by the polarimeter, when rotation to the left points to the presence of β-oxybutyric acid. Instead of fermenting the urine, etc., distillation might be employed and the result compared with that obtained by the former process.

Symptoms.—The first thing that impresses one on entering the bedroom is the peculiar sweet odour of the breath, making one think of diabetes. The patient is often drowsy or semi-comatose, but rouses up when the attacks of vomiting come on. Everything is rejected. There is no vomiting of large quantities of fluid; in most cases it is limited to mouthfuls of clear fluid. As soon as the vomiting ceases the child falls back into the drowsy state. Headache is often complained of, but it is not the splitting headache of migraine; and, of course, there is thirst. The appetite is entirely gone. The respirations are frequent, being evidently due to stimulation of the centre in the medulla. The skin is hot and dry, except at the end of the vomiting and retching, when the brow and temples may be covered by beads of

sweat. The cheeks are flushed, and the temperature in the arm-pit ranges from 99° F. at the onset to 103° F. at a later stage. As a rule the temperature is not high at first. The bowels, as a rule, are constipated, and the urine is scanty, but always contains acetone and often diacetic acid, but I have never met with sugar. In mild cases the urgent symptoms pass off in twenty-four to forty-eight hours; vomiting becomes less frequent, large draughts of water are taken, more urine is passed, and the bowels move freely. This latter circumstance I always look upon as a favourable omen.

In severe cases which recover the urgent symptoms do not pass off for fifty-six hours, or even longer, and there may be deep coma, leading one to think that the condition may prove fatal, and yet recovery takes place.

In the fatal cases the coma increases, the sweet odour of the breath may disappear, the temperature may rise to 103° F., or a little higher, clonic contraction of muscles or convulsions often follow, and the vaso-motor centres fail, as shown by the alternating white and pink hues of the skin and the profuse cold sweats. Towards the end the breathing is often of the Cheyne-Stokes' type.

In all the types of cases it is important to attend to the abdominal symptoms. There is never any violent pain, no peristalsis, no swelling; all that can be elicited is a tenderness high up in the abdomen, over the regions occupied by the liver, pancreas, and spleen. It remains to be mentioned that there was no jaundice met with in any of the cases.

Differential diagnosis.—Acidosis is distinguished from a "bilious attack" by the absence of severe headache, and by the drowsiness and other symptoms peculiar to the condition. It may be confounded with meningitis; but then, meningitis has always a previous history of injury or of irritability when tuberculous in origin. Then, again, the course is prolonged, and the knee-jerks are exaggerated, and there is the presence of Kernig's sign, besides many other well-known signs and symptoms which mark it out from acidosis. Lastly, idiopathic acidosis is only to be diagnosed when, after searching examination, no cause can be assigned for the acid intoxication. Fatal cases of acidosis appear to terminate in from a week to eight or nine days.

Treatment.—Mild cases soon get well with simple treatment; but I believe all cases in children attended by sweet odour of the breath and the presence of acetone in the urine should be treated as serious till the course of events prove them to be otherwise, and I have now begun to treat all cases alike from the beginning. I order a

saline purgative mixture made up as follows: Heavy carbonate of magnesium, 36 gr.; bicarbonate of sodium, 24 gr.; powdered tragacanth, 3 gr.; glycerine, 2 fluid drachms; water or peppermint-water to 3 fluid ounces. Dose: Two teaspoonfuls every one or two hours with or without plain water or aërated soda-water. As a rule the child wakes up so frequently that the medicine can be given as often as desired; and as it is pleasant to take, it can be given instead of the usual draught of water or soda-water. It has the advantage of being laxative. I also prescribe aërated soda-water (not plain aërated water), and in order to get as much alkali into the tissues as possible I ask the mother or nurse to add 10 gr. of sodium bicarbonate to each tumblerful of aërated soda water, that is, to about each half-pint, so that when the child wishes to drink it can have some of this reinforced soda-water. Sometimes the child does not like the taste of the sodium bicarbonate, but a tablespoonful of milk added to the tumblerful usually masks the taste. The patient may refuse to take this prepared beverage, and then one has to fall back on cold water, and although it does not cleanse the gastric mucous membrane so well as the other beverage, it has some good effect. I am satisfied of the efficacy of the reinforced soda-water. The stomach contents have been retained for longer periods when it was given, and this gave a chance for the magnesium mixture to pass through the pylorus and to set up intestinal peristalsis and often a movement of the bowels—always a favourable sign. The sodium bicarbonate, besides its general action on the tissues after absorption, may have a local indirect anæsthetic action of the gastric mucous membrane by neutralising the poison excreted by the stomach.

Occasionally the vomiting becomes so persistent that the patient gets no rest, and then I prescribe a mixture of ♏j of tincture of opium; ♏x of compound tincture of cardamoms; glycerine, ♏x; and water to one fluid drachm, this to be given every hour till the child gets sleep or rest. After a few doses of this mixture I have seen a patient sleep for five or six hours and awake on the way to recovery.

Illustrative cases.—The following may be taken as typical of a mild case: A boy, aged 6 years, is somewhat suddenly seized with sickness and vomiting of small quantities of white-of-egg-like substance, thirst, slight headache, and drowsiness. The bowels are not unduly constipated. Very little urine is passed. There is the characteristic sweet odour of the breath. The urine is acid, contains neither albumin nor sugar, but gives the reaction for acetone. He has no desire for food, but craves for cold water and soda-water.

These are given freely, and the magnesium and sodium carbonate mixture is prescribed. In twenty-four hours he is better, vomiting is less frequent, and the drowsiness is not so pronounced. In forty-eight hours after being first seen he is on the way towards convalescence. I have seen many cases like this in which there was no evident cause for the acidosis.

Severe cases.—(1) Girl, aged 4½ years. When she was two, or a little over, she had her first attack, and from that time till now she has had something like four seizures, or rather less than two on the average yearly. All have been severe. In one attack she was semi-comatose for fifty-six hours, only waking up at intervals to ask for a drink. This naturally caused great alarm, and it was at this time that I proved to my own satisfaction the efficacy of the alkaline treatment of acidosis. Previously I had imagined it was rather theoretical than practical. In another of these seizures, in which the vomiting was persistent and gave the child no rest, I prescribed the opium mixture mentioned above, with the happiest results. At the end of one of these attacks, lasting, perhaps, only three days, the child was left with soft, flabby, wasted muscles, far in excess of that usually experienced in an illness of such a short duration. I may add that from the age of twelve months she had suffered from severe urticaria without abdominal pain, but in none of the attacks of acidosis was there accompanying urticaria.

(2) Boy, aged 7 years. For rather more than three years he has had ten attacks, and nearly all of them have been severe. The first day he suffers from slight headache, lies down, and is drowsy. On the second day he may complain of slight tenderness in the upper part of the abdomen on palpation. With this there is sickness and the sweet odour of the breath. The vomiting may be more or less severe for two days. Between the attacks of vomiting he lies in the usual drowsy state. On the fourth day the symptoms abate, and convalescence is established. The longest and most severe attack lasted for ten days. The odour of the breath, the presence of acetone in the urine, without there being anything to account for these, seemed to me to warrant the diagnosis of idiopathic acidosis. The child is somewhat rickety.

Fatal cases.—(1) Nearly three years ago I was called to see a girl, aged 7 years, who had previously been in good health. There was no tendency to any complaint. The weather was very hot, the door and windows were widely open, and there was a current of cool air, but in spite of this I detected the sweet odour of the breath as soon as I entered the room. I asked the mother if there

was vomiting, to which she replied that everything was rejected. Neither the mother nor the father had observed the sweet odour of the breath. The temperature was 99° F. in the arm-pit. The tongue was not particularly coated. There was some slight tenderness high up in the abdomen on pressure, but no muscular resistance. No swelling nor peristalsis suggestive of pus or obstruction was to be found. The mother said the patient wished to lie quiet and not be bothered with anything. The urine contained acetone. I had thought of prescribing opium, but it was well, in view of subsequent events, that I did not. I ordered a simple mixture containing magnesium carbonate, sodium bicarbonate, and salines, and plenty of cold water freshly drawn from the tap. Next day the child was not one whit improved. On the following day I left for my holidays, and she came under the charge of a friend, who called in a consulting physician, and they agreed that it was the wisest course to have the abdomen opened. This was carried out by a surgeon, and I believe nothing was found to account for the vomiting. I may say that had I been at home I should have followed the course taken, because at that time I had not come to recognise the fact that there may exist cases of persistent vomiting without any evident physical cause.

(2) A boy, aged 3½ years, was brought to me in February, 1910. As soon as he entered the room I recognised the characteristic odour, but here, again, the mother, on being questioned, said she had not noticed it. I then asked if he had had vomiting, to which she replied that even a drink of cold water was rejected some time after it was taken. The boy had great thirst, and, as his mother expressed it, he was "all for sleep." I told the mother that I thought the boy was seriously ill, to which opinion she seemed to demur, saying that if only the sickness was stopped he would be "all right." Had I not had experience of the condition I should have been of the same opinion as the mother, for the usual signs and symptoms of a serious condition were absent. The urine gave Legal's acetone reaction. I prescribed the usual remedies, including opium, but without avail, and the boy died in eight days. Earlier in the year the child had had influenza. This is the only important circumstance in the previous history that calls for mention.

TREATMENT OF CONGENITAL SYPHILIS WITH "606."

By J. E. R. McDonagh, F.R.C.S.,
Surgeon to Out-patients at the London Lock Hospital.

Ehrlich's epoch-making discovery, which has already played a great *rôle* in acquired syphilis, bids to play even a greater in the congenital form, since if the method prove successful infant mortality will be thereby diminished. If statistics or Government reports are studied, one would believe that syphilis did not exist in our isles. A medical man recently aptly said—"Syphilis is unknown in Liverpool." To obtain an idea of the havoc syphilis causes, I cannot do better than cull from the figures of Hochsinger, who has been able since 1869 to keep under supervision 134 women, who themselves showed no signs of syphilis, but bore syphilitic children.

These women gave birth to 569 children, of which 253, or 44·4 per cent., were born dead, 263 were born alive, some showing signs of syphilis at birth, others not till later; of the 263, 55, over 20 per cent., died before the fourth year, and only 53 were born who grew up without a taint.

From these figures it will readily be seen what a cure of syphilis would mean, since not only could we cure those already born, but by treating the mother prevent the birth of syphilitic children and miscarriages. As the drug has not been in use a year yet it is too early to draw any conclusions, but from the reports already issued one is justified in being at least optimistic, as the following will show. Wechselmann treated five cases of pemphigus neonatorum, which is, perhaps, one of the most fatal of the early congenital syphilitic manifestations.

Two recovered, three died some days following the injection, after the cutaneous lesions had completely disappeared, but fever and marked anæmia, and in one case opisthotonos, set in.

The post-mortem examination of one case showed miliary gummata in the liver, in another gummata in the cardiac muscle, but in none was any trace of arsenic found. Wechselmann ascribes the death to the rapid dissolution of the spirochætæ, resulting in a considerable overflow of endotoxins which a weakly, marasmic child could not overcome.

Schreiber reports two cases of pregnant women who, after a single injection of "606," gave birth to healthy children.

Michaelis showed on July the 6th, before the Berlin Medical

Society, a congenital syphilitic child with a maculo-papular rash on the trunk, and a papular rash on the palms and soles, who had been completely cured after a single injection.

Treupel reported a cure of a congenital syphilitic suffering from bilateral keratitis and iritis after an injection of 0·4 grm. Eighteen days later the Wassermann's reaction was still positive.

Curiously enough, in Igersheimer's case of bilateral interstitial keratitis the eye trouble did not clear up on 0·4 grm., but the Wassermann's reaction became negative on the fourth day.

The following case, reported by Taege, is one of considerable importance, since it seems to prove that a syphilitic child can be cured by being suckled by its mother, who had previously received an injection :

A girl, aged 19 years, with condylomata, from which spirochætæ were obtained, and who gave a positive Wassermann's reaction, gave birth on July the 4th to a marasmic child, which weighed 4¼ lb. On July the 13th pemphigus bullæ on the soles of the feet and paronychia of the fingers developed ; the following day the mother was injected with 0·3 grm. of "606." On the third day the mother's lesions showed improvement, and no spirochætæ were to be found in the condylomata.

The child was suckled straight away by the mother, in consequence of which, on the second day, the symptoms increased in severity, to suddenly disappear with such extreme rapidity that on the fifth day the greyish colour had been replaced by the normal rose-tint of the skin, the paronychia had vanished, the bullæ became almost imperceptible, the child cried instead of whimpering, and took the breast eagerly. On July the 29th the child weighed 8 lb., and showed no symptoms.

Only the merest trace of inorganic arsenic was discovered in 100 grm. of milk, therefore one cannot believe that the improvement of the child was due to the arsenic, but rather to the endotoxin which resulted from the destruction of the spirochætæ in the mother, and which was conveyed to the child through the milk.

Duhot reports an essentially similar case, in which the child increased more than a pound in weight the first week, a pound in the second, and three quarters of a pound in the third. In the milk Van Keerberghe could not find the slightest trace of either organic or inorganic arsenic.

If merely injecting the mother is going to cure the child the latter need not be injected, thereby the risk of poisoning from an overdose of endotoxin is obviated ; but one must bear in mind the

possibility of a recurrence if treating the mother is solely relied upon, as one can scarcely believe that the amount of antitoxin absorbed from the milk would be as potent as an injection; time can only show.

Be that as it may, the condition is so remarkably improved thereby that a child could stand an injection later if necessary, and the dose given should range between 0·004–0·005 grm. per pound. The formation of anti-bodies by arsenical preparations in protozoal diseases was known to Ehrlich before "606" came to be used clinically.

It was found that certain synthetic arsenical compounds only partly killed the organisms, the remainder succumbing to the anti-bodies produced by the death of the few.

The best results of cure obtained are, naturally, when the disease is at its height, when the body is saturated, so to speak, with the specific organisms, since the formation of anti-bodies may play even a greater part in causing complete dissolution of the organisms than the direct destruction of a few, and in these very potent preparations the smallest dose possible may suffice.

After having treated sixty cases with "606," I have found that a bigger dose is required to heal an early chancre than to completely cure a case of extensive gummatous ulceration, for instance, in a congenital syphilitic; therefore one is justified in assuming that the cure is largely due to the amount of antitoxin formed, and those cases which have severe syphilitic lesions, such as extensive ulceration of the pharynx and larynx and meningitis, are very ill for a few days after the injection, have high fever, and sweat profusely. It is not, therefore, to be wondered at that tiny infants have succumbed after an injection.

A girl, aged 15 years, kindly referred to me by Mr. R. C. Elmslie, developed the usual signs of congenital syphilis soon after birth, the mother having acquired the disease two years previously. Later the child had double interstitial keratitis, which disappeared under treatment, to be followed by cutaneous gummata over the left thigh and leg, which had resisted prolonged oral administration of mercury. The gumma on the thigh was deep, circular, and about 2½ in. in diameter; on the anterior surface of the tibia were multiple sores, the base of some reaching as far as the periosteum and bone; there was a great deal of evil-smelling discharge, and it was almost impossible to keep the ulcers clean.

The patient was injected with 0·3 grm. of the powder in an emulsion. Except for a little pain and a rise of temperature to

100° F., which lasted till the next day, the patient suffered no inconvenience.

On the second day the ulcers already showed signs of healing, and within ten days they had completely healed, no other treatment having been added. The patient also says she feels very much better.

The Wassermann's reaction is still positive.

The persistence of the positive Wassermann's reaction in congenital syphilis requires much more light thrown upon it before a satisfactory explanation is forthcoming. I have examined women who have borne healthy children and presumably had no active disease, but whose sera were capable of fixing an unusual quantity of complement, and the fixation power was not lessened by treatment.

THE THIRD INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.

By M. D. Eder, M.R.C.S., L.R.C.P., B.Sc.Lond.,
Managing Editor of 'School Hygiene.'

It is an error to judge the value of a congress, especially of an international congress, by its printed records. These always look very imposing, and certainly those of the Paris Congress, in two fat volumes, were weighty enough, but critical examination is apt to find much of the stuff wearing rather thin. The real value of the congress lies in the informal meetings, where half a dozen diverse minds from diverse countries foregathered to thresh out knotty problems. It was over the coffee-cups, or the bocks, or on the staircase of the Grand Palais, or during an excursion, that one discovered the views of the delegates on the chief subjects in the programme.

The Congress itself certainly did not give much opportunity for discussion at all, except on one subject—"The *Rôle* of the Specialist in Medical Inspection." The very breezy debate in the third section on this topic was, after all, I think, due more to a misunderstanding than to any real diversity of views on the chief point. Dr. Stackler, a French aural specialist, and Dr. Oebberke maintained that the general inspection of school children, including that of the eyes, ears, skin, etc., must be carried out by a non-specialist school medical officer, who would be usually a general practitioner.

To this proposition the main body of specialists objected. How

could the general practitioner know all about teeth, eyes, ears, and so on? "What!" retorted Dr. Stackler, "you want each unfortunate child to be examined by a dentist, aurist, oculist, psychiatrist, thoracist, hepatist, orthopædist, urinologist, etc.! The child will be dead, or at least a professor, before the specialists have done with him."

Whilst the main battle was carried on in the third section, the line of fire extended through nearly all the sections; I certainly heard distinct rumblings in Sections 4, 5, 6, and 11, and in the set discussion before the Congress on the third morning.

It is difficult to understand what all the bother was about; in fact there would have been none at all (which, after all, would have been a pity) had the disputants kept in mind a few simple propositions such as were laid down by Dr. Kerr on the first day of the Congress. The school doctor has to determine whether a child does or does not require special treatment—medical or educational. No specialist examination of the senses is required for this, as will be seen on referring to the discussions in the special sections (see, for instance, Drs. Gellé and Hennebert, and Mr. Yearsley, on testing the hearing powers of school children).

When the school doctor has separated the normal from the abnormal children, the specialist (who may be the school doctor himself) has his part to play. Not only is a rigorous examination of the abnormal children required, but, as Mr. Yearsley insisted, this examination is merely a means to an end, viz. treatment. This is what Dr. Kerr meant when he said that the same school doctor who inspects should not, as a rule, carry out the treatment. The child is to have the benefit of two opinions—the general practitioner —school doctor, and the specialist, who may, of course, be at the same time a school doctor himself.

It was really unfortunate that the question of treatment itself received such scurvy treatment at the Congress. In England certainly the pivot of medical inspection now turns on this point. Dr. Williams, of Bradford, had a paper down describing the Bradford school clinic, and my own paper was to deal with the experience of Dr. Tribe and myself at two London school clinics. These were set down for the last morning, and were then shelved by the lunch hour. These were the only papers before the Congress describing the treatment of school children from actual experience.

Prophylactic treatment, on the other hand, was splendidly to the fore. Nothing very new occurred in the discussion on open-air schools, but it is a subject that will do with any amount of ventila-

tion ; it has already led to more air in the ordinary schools and to some improvement in the overpowering stuffiness of the average German school. Physical education was well presented ; not only was the sectional meeting well attended, but the demonstrations given every afternoon attracted much criticism. We had the opportunity of judging what harm can be done by ill-directed effort as well as what good may be accomplished by carefully selected methods. The gymnastic display by some French school boys showed the former tendency ; the drilling was good but many of the boys were overtaxed ; all were pale and fatigued towards the end, whilst choreic movements were noticed in some of the children. On the other hand the displays by Miss Wilke's pupils and by those of Miss Hughes were admirable in every respect.

A prominent place was assigned to the thorny subject of instruction in sex ; I say thorny, because so long as we confine ourselves to generalities there is no difference of opinion, but once we go into details there is no consensus of view. All agree that children should not be allowed to pick up this knowledge in the gutter ; their instincts afford no safe guide, unless partly controlled by education. Dr. Chotzen, of Breslau, and Dr. Doléris, of Paris, read papers on the subject to the Congress, and Dr. Flachs to the ninth section. All three claimed that the doctor was the only person who should give this instruction—a view from which I had to dissent. Recollections of student days abide with one, and force me to say that the physician is frequently a singularly bad teacher. Why should it be otherwise ? With a few teaching is an innate gift, but even with these few exceptional persons a professional training is essential. Whoever thinks it necessary that a physician or surgeon in a teaching hospital should have real training in the art of teaching ? It is quite as essential that the educator of youth should have professional skill as that he should have a proper knowledge of his subject.

Much harm is being done at the present moment because some doctors, with complete ignorance of the art and science of education, will insist upon drawing up a rigid educational programme. I need not say that those school doctors who know most of their subject carefully abstain from this folly. But a signal instance of this was the paper by Dr. Chaillou, formerly of the Pasteur Institute, who has not even the experience of a school doctor. He drew up a complete school time-table for every minute in the day ; had a walk once a week, a bath once a day, claret at dinner, coffee and meat at breakfast, explained what should be taught, when and how. It

is not surprising that educationists ask, like Miss Michaelis in 'Child Life,' Is this "an example of what is likely to happen if the medical man is to have the supreme voice in ordering the life of the school child?" Everybody is prepared to give advice on medicine and education; the doctor should at least remember his own difficulties, and approach the subject of education with some diffidence.

To ensure the future success of these congresses some changes are required. Sections should not be multiplied so unnecessarily; there were thirteen sections at the Congress, and these could have been easily compressed into half the number by prohibiting the reduplication of papers on one subject. French Presidents and secretaries are too tender-hearted. No paper to be read before a congress should exceed twenty minutes in length. This would allow for the fuller discussion of important questions, and permit one to be in more than one section on one morning.

One of the chief results of the Congress will probably be to place medical inspection of schools in France on much the same footing as it is in England and Germany—a Bill is now before the French Chamber. This, after all, will be success enough, just as it was in our land three years ago.

Third International Congress on School Hygiene.

Held in Paris, August the 2nd—7th, 1910.

(Compiled from 'School Hygiene,' September, 1910, by Dr. M. D. Eder.)

(*Continued from p.* 408.)

Section V.—THE PREVENTION OF CONTAGIOUS DISEASES IN SCHOOLS.

The proportion of infectious disease in childhood to be charged against the account of school attendance proved to be a point upon which there was no general agreement. Dr. Harrington (Director of School Hygiene, Boston, U.S.A.), on the second day, in an able paper, took up the strong view that school attendance was a modifying rather than a causative influence, while Dr. Alois Lode (Medical Officer of Health of Innsbruck), on the third day took up the cudgels in support of the opposite view. Another question that brought out sharp difference in opinion was the amount of infectious disease which can be prevented by daily visitation of the school by the doctor. In his opening remarks the Chairman of the Section (M. Hutinel) inclined to favour constant personal supervision, but the speakers following in the discussion took the general view enunciated by Dr. Kerr—that daily visitation

of schools with a vague preventative aim is waste of time and money. The first sitting of the Section on Wednesday, August the 3rd, was largely occupied by a discussion on the subject of **Parasitic Diseases of the Skin in School.** This was opened by Dr. JEANSELME and Dr. MEIROWSKY. The former dealt with the prevalence of tinea and pediculosis in the school, and advocated the appointment of school nurses, who should be occupied in the treatment of parasitic skin conditions in school. He also advocated the training of children in personal hygiene.

Dr. MEIROWSKY insisted more on exclusion from school of infected children, and their treatment at home by district sisters.

The second day's discussion was occupied with the question of **The Superintendence of Infected Children when out of School, and the Conditions of their Re-admission to School.**

Dr. MERKLEN (Paris), dealing with re-admission, pointed out that a law of 1893 in France demands a certificate of freedom from infection, but he went on to show how frequently this provision breaks down. In his opinion a certificate from the school doctor should alone be valid. Dealing with periods of exclusion, he gave for each disease an appropriate period; these approximate to those in use in England, with the exception of measles, for which his suggestion of eight days after the appearance of the eruption would appear to most of us somewhat short. Dr. HARRINGTON, who followed, showed that the closing of schools in summer could not be the only cause of the lessened morbidity of such diseases as scarlet fever and diphtheria during the vacation, and urged the importance of the view that during term time very few cases are missed as compared with holiday time. He described how special quarantine nurses are in Boston assigned to homes in which contagion is present, and close supervision thus secured during the prescribed period of isolation. In his view education, instruction, and persuasion are more effective in controlling disease than legislation and compulsion, and he quoted with approval the London plan of warning notices to parents when the presence of measles in a school becomes known. He gave figures showing the extreme rarity of tuberculosis in elementary schools (158 cases in 90,000 Boston school children).

Dr. LATAPI (Mexico) described the measures taken in that country to control the infectious diseases of school children. When a child in school is discovered with ringworm the doctor immediately cuts out a piece of material and applies it with care to the child's head; he binds it on with an elastic cord. The child then is sent home with a bulletin. The unexpected appearance of the child at home in this head-dress invariably produces a sensation, and the parents hasten to obtain advice for a condition which, without the elaborate adornment, would probably be ignored.

The chief discussion at the third sitting was on **The Means of Protecting Households from Contagious School Diseases.** Dr. GILLET (Paris) laid great stress upon the educational effect of advice from the school authorities, and produced the various pamphlets distributed by the health authorities of Paris to this end, including the "little book" of thirty-nine pages entitled 'Instructions on the Prophylaxis of Contagious Diseases,' issued by the Prefecture of the Seine (edited and to be obtained from the Chaix Press).

Dr. BARLERIN (of the Vaccine Institute of Paris) described the practice of re-vaccination in the schools of that city. For many years Dufestel and Lazard have carried out thorough school vaccination in the two most populous districts. He advocated re-vaccination of all school children in

the seventh and eighth years of life, and considered that it should be part of the duty of the school doctor.

Section VI.—OUT-OF-SCHOOL HYGIENE—OPEN-AIR SCHOOLS —VACATION COLONIES.

This side of preventive medicine and improved educational method was well supported. M. Lacabe-Plasteig gave a complete history of the open-air school movement, and described the school opened at Lyons in 1907, which has been successfully carried on by the municipality. Paris has just bought a beautiful piece of ground, where a similar school is to be erected. Dr. Vigne, physician to the Lyons school, claimed that his school, where there was sleeping accommodation for the children, was especially beneficial for children with definite tuberculous lesions. Dr. Thomas B. Balliet (New York) insisted upon the value of "fresh-air rooms," small classes, good food, and plenty of it, rest, and baths; and Dr. J. W. Brannan (New York) described the open-air schools set up on the disused ferry-boats of New York, where the children came daily. A full report of the Bridport open-air school was given by Dr. L. Williams and Mr. Kirby, the city architect. The former showed the success of the school in the treatment of chorea and of stammering; whilst Mr. Kirby claimed that the open-air school movement was affecting the designs of school buildings in general.

Dr. R. P. Williams, of Sheffield, gave an interesting description of the Sheffield school. He stated that the school attendance of the children who had been to Whiteley Wood was ever so much better than the same children's attendance in previous winters. Dr. Neufert (Charlottenburg) said that delicate children who had been to the open-air schools ought to be kept in special classes in the ordinary schools, so that they might be kept under observation. He favoured the adoption of the "open-air" principle in all schools. Other interesting communications were received from Mme. Tluchor on the day holiday-schools of Austria, and from Dr. Pandi (Padua) on holiday camps for children.

Section VII.—THE TEACHING STAFF, THEIR RELATION WITH THE HOMES, AND WITH THE SCHOOL DOCTOR.

The president of the section was M. Lyon, Rector of the University of Lille. The very important question of the health of prospective teachers was fully treated in papers by Dr. Breton (Lille) and Dr. R. L. Williamson (Manchester). Dr. Breton gave the result of a questionnaire that had been submitted to the heads of training colleges asking for information as to the effect of the existing regulations. The replies showed that these were on the whole quite satisfactory, but that the medical examinations must be kept up to the mark, and Dr. Breton proposed to enlarge them in several respects. Dr. Williamson showed that the teaching is a healthy profession. The chief cause of death in England and Wales is tuberculosis, and the most frequent cause of retirement is nervous disease, chiefly neurasthenia. Mental strain was often due to large classes, and the remedy for this was obvious.

Herr Thutlor, head master of the boys' school at Vienna, described the

parents' meeting which had been instituted at Vienna. He said they had a most valuable influence upon the health and education of the children. They kept the master in the right place to encourage the parents to take a direct interest in the educational progress of the children. The following resolutions were passed on this subject:

(1) That frequent conferences between parents and teachers be organised at all educational establishments in every country.

(2) That a central committee should make the necessary arrangements and formulate a general programme for such conferences.

Dr. Broudic (Paris) read a report on the feeding at the crèches (*écoles maternelles*), where children are educated from the age of two. He said the dietary was often most unsuitable. He had seen these babies drinking wine in the canteens. Wine and other alcoholic drinks should be prohibited. The teachers can do nothing at present, because the children, not yet being of school age, are not under their orders. He proposed that the dietary in these canteens should be properly adapted to the infants, and in future should be controlled by the school medical officers.

Section VIII.—INSTRUCTION IN HYGIENE FOR TEACHERS, SCHOLARS AND PARENTS.

The work of Section VIII dealt with:

(1) **The Teaching of Infant Rearing to Mistresses and Pupils.**—The chief papers on this subject were contributed by Dr. Fruhinsholz (Nancy) and Alderman Broadbent (Huddersfield). "It is to be hoped," said the former, "that the teaching of infant rearing to young girls will become obligatory." Alderman Broadbent dwelt on the appalling ignorance of many present-day mothers, the necessity for giving instruction on infant management to every elder school-girl, and the fallacy of the opinion that such instruction robs girls "of the bloom and freshness of innocence." "In various schools, but more particularly one in Leeds, it had been demonstrated that girls will remember the lessons taught them on this subject; they love the teaching, they feel its importance, they take it in simply." "The first principle of education is to build up intelligence upon instinct." "To a large extent we do so with boys, but with girls the very strongest of natural instincts are ignored and as far as possible suppressed." "The girl's unconscious love of babyhood is, educationally, a mine of ungotten gold, and should be made the utmost use of. There is splendid material in this motherly instinct of girls, and whatever has been the reason for its neglect in the past, it is time a totally different view should be taken of the relation between education and motherhood."

Temperance Teaching in School.—An excellent paper was read by Dr. Alexis Pissavy (Paris). "Alcohol," he said "doubles the death-rate and menaces even the existence of our race. The school is the most favourable ground for the anti-alcoholic struggle. With the *child* we have only as yet to fight against prejudices and false ideas learnt in home life. With the *man* who has commenced to drink, our efforts come into collision with the physical need of drink, a necessity so pressing that confirmed alcoholism is practically incurable. The struggle against this curse ought, then, to be preventive." They should not only point out the dangers of drink, but should strive to keep the country child in the country by "developing his tastes along country lines." Interest the townsboy "in

associations where temperance is the rule," and (last but not least), "give the women such an education in thrift as would enable them to make for their husbands a home sufficiently attractive to keep them at home. Dr. Pissavy made the novel proposal that "the masters who devote themselves most ardently to the struggle against alcohol be greatly encouraged, and that the decrease in the number of shops (beer and wine), and consumption per head of the inhabitants, serve as a basis for the right of recompense accorded to the masters of elementary schools for their anti-alcoholic zeal."

Dr. Hugo Hagelin (Sweden) followed, and a heated controversy took place, inasmuch as he wished, not temperance teaching, but that of total abstinence to be made compulsory.

Section IX.—TEACHING METHODS AND SYLLABUS IN RELATION TO SCHOOL HYGIENE.

There was a good attendance at the opening of this section to hear Dr. Chaillou (Paris) on a standard time-table for children of different ages. Dr. Chaillou contended that inasmuch as the course of study demanded to-day was very exhausting, the dietary must be a stimulating one. Children of sixteen to eighteen years of age should get up between five and seven and go to bed at half-past eight. The classes should be broken up by intervals of quarter-hours; there should be one walk per week. Meat should be given at early breakfast and mid-day, but not at dinner in the evening. At breakfast black coffee might be taken, but not *café au lait* or chocolate. He regarded milk as a poison. For dinner, light Bordeaux, which he considered an excellent beverage for school children who required something stimulating. The paper was criticised by M. Menduisse, Hagelin, and others. Black coffee and wine were considered by most present as more poisonous than milk for children. It was contended that if the course of studies could only be maintained by a stimulating diet, it was surely more advisable to change the educational problem rather than to adopt that dietary.

Other papers that provoked interesting discussions were: Dr. Janelle on **Experiments in Fatigue,** Dr. Flachs on **Education on Sex,** and Dr. Schuyten and Dr. Mendousse on **The Causes of Inattention.**

Section X.—TEACHING OF ABNORMAL CHILDREN.

The Session was opened by Dr. Beauvisage, Senator and Professor of Medicine at Lyons, who discussed the questions of the time-table and curriculum for feeble-minded children. The discussion was maintained by Dr. Amand Laurent (Rouen) and Dr. Boyer (Paris), and with the exception of a few remarks from Miss Dendy (Sandlebridge), was confined to the representatives of France. In an interesting paper Dr. Manheimer Gommès (Paris) strongly advocated the boarding out of feeble-minded children, and suggested that internal schools for defectives should find place for children from rural districts. He also pointed out the importance of a linking up of the various institutions for dealing with non-normal children:

(1) Schools for abnormal children—(*a*) special classes (day classes or special schools of a non-residential character); (*b*) special residential schools.

(2) "Hospital schools," where medical and educational treatment may be combined. These might be called "observation schools."

(3) Institutions for protection, improvement, and reform—colonies in which the training and general mode of life is (1) agricultural, (2) industrial.

(4) Institutions for the unimprovable—asylums for lunatics, idiots, etc.

Mrs. Pinsent, in her paper, attempted to prove that under existing circumstances the great expense of special school teaching is not justified by the results achieved. The Birmingham After-care Committee has now been in existence for nine years, and has accumulated ample material on which to base an opinion. What are the results? A large proportion of the children trained in the special schools are already known to be in the workhouse or in institutions for the feeble-minded. Less than 5 per cent. can be described as self-supporting, and only a small proportion of the total number earn as much as ten shillings a week, while numbers are living at home earning no wage at all. While it is found to be comparatively easy for a child from a special school to obtain work at the usual rate of wage for "young person" labour, yet the wage-earning capacity does not improve, and within a few years he finds himself either out of work or earning a wage little or no higher than that he received upon his entrance into industrial life. The only remedy for this state of things is, in her opinion, the means of securing continued control and supervision beyond the age limit fixed by the Education (Defective and Epileptic Children) Act, 1899.

Miss Dendy advocated a colony life for the feeble-minded on the lines of the Waverley Colony. The success of the life in a colony depends upon the participation of each individual member in the communal life, in which each has definite duties, however simple, but suited to his individual capacities, whereby the interests are aroused. Even the humble duty of counting the potatoes to be distributed to the various homes, by arousing the interest, serves better to teach the idea of number than a formal attempt at the inculcation of rules of arithmetic. Correct classification of the inmates is thus the keynote of success, and every endeavour should be made to educate such faculties as are present rather than to attempt in vain to stimulate into being faculties which are non-existent. There must, however, be no time for idleness.

In the discussion which followed these two papers, Mrs. Burgwin (London) strongly deprecated a complete exclusion from the curriculum of any attempt at "three R's" education and the relegation of a child to a whole-time manual time-table. The first and most important step must be the clear differentiation of the feeble-minded children, especially those who are only slightly below normal, from the idiots and imbeciles. In any scheme for dealing with the question there must always be a place for the day-schools and classes, which will continue to act as observation classes, and custodied institutions for those whose mental capacity renders permanent care imperative.

Dr. Shuttleworth (London), the English Secretary to the Section, read a *resumé* of his paper in which he argued for the systematic training of teachers in the diagnosis and varieties of feeble-mindedness. Three factors are of importance:

(1) Intelligent and reciprocal collaboration between the medical officer and the teachers.

(2) Periodic conferences between the medical officer and the teachers.

(3) Some method of preserving records of physical and psychological

points in order to modify the type of instruction as may be necessary from time to time.

Section XI.

This was divided into three sub-sections.

Sub-section I.—HYGIENE OF THE EYE.

Dr. Gonzalez (Mexico) gave an interesting *résumé* of the eyesight of school children in Leon, Mexico. The results were obtained by retinoscopy, and were carried out on 1000 children:

Emmetropia	49·2 per cent.
Hypermetropia	40·8 ,,
Myopia	3·4 ,,
Hypermetropic astigmatism	2·7 ,,
Myopic astigmatism	3·9 ,,

This gives a total of 7·1 per cent. for all forms of myopia, which Dr. Gonzalez regards as low compared with the estimates from other countries. He attributes this to the small classes, the open-air life, the absence of any necessity for artificial lighting, and the race—for the majority of the children are of mixed Spanish and native Indian stock.

Prof. Dufour's (Lausanne) paper dealt with the general causation of myopia among school children. He said that ophthalmic surgeons had long ago agreed as to this. Myopia is due to the necessity for prolonged looking at objects less than 30 cm. distant, and acts only on predisposed persons. The inconveniences of this predisposition can be obviated by proper attention to school hygiene generally and to the affected children individually.

Dr. Frenkel (Toulouse) and Dr. Katz (St. Petersburg) dealt with the relations between affections of the eyesight and school attendance. Dr. Frenkel found that the frequency of external eye disease is about 10 per cent. The cases that required exclusion from school were trachoma and such forms of conjunctivitis as are due to gonorrhœa, the bacillus of Weeks, or the pneumonias; conjunctivitis due to the Morax-Axenfeld bacillus, though frequent, rarely requires exclusion. The sitting terminated by carrying the following resolution: "Having regard to the many eye diseases, scrofulous and infectious, in the primary schools, and having regard to the many different cases of refraction among the children, this section is in favour of the appointment of ophthalmic surgeons in all primary and secondary schools in every country for the examination of, and, when necessary, for the free treatment of, the children, in collaboration with the school medical officer and the teaching staff."

Sub-section II.—AURAL HYGIENE.

Drs. Gellé, *fils* (Paris), and Hennebert (Bordeaux) read their report on **How to Increase the Hearing Power of School Children.** In view of the large number of children to be examined and the small number of examiners available, the only practical method was to test the hearing by means of the voice—words spoken aloud and in a whisper; each ear should be examined separately. It was not necessary to test every child, but only those selected by the teachers as suffering from defective hearing. About two thirds of the children will be found curable; of the rest none who fail to hear

the whispered voice at two metres can profitably stay in the ordinary classes. These must receive careful examination ; those who, *e.g.*, can hear a loud voice should receive individual teaching or go to special schools; others must be drafted to the deaf and dumb schools.

In the discussion Mr. Macleod Yearsley (London) said he was glad to find himself in complete accord with the openers. He described his own method of examination in the London County Council schools, and insisted upon such inspection being merely a means to an end, viz. treatment. Mr. Macleod Yearsley summarised in his paper the arguments for the early education of the deaf, and concluded with the following resolution : " That it is the strong opinion of this Section of the Third International Congress on School Hygiene that the aural education of the deaf child should commence at the age of three years, and that the ultimate success of deaf education would be greatly enhanced thereby." The same view was advocated by Mr. G. Sibley Haycock (London) and by Dr. Kerr Love (Glasgow), who claimed that inasmuch as a deaf child of seven is equal in general to a hearing child of two years, special education should be commenced as soon as the child is discovered to be deaf.

Mr. F. G. Barnes, on **The Treatment of Defective Deaf Children,** pointed out that the presence of these children in the ordinary schools for the deaf was against the best interests of both. In the defective deaf special residential schools were required.

Sub-section III.—DENTAL HYGIENE.

Wednesday morning, August the 3rd, Dr. Dreyfus (Paris) and Dr. Wilhelm Wallisch (Vienna), **Oral Hygiene in Residential Schools.** After discussion of these papers the following resolutions were passed :

(1) That a dental inspection by a special istshould take place every six months in the schools.

(2) That there should be a dentist inspector and a dentist for treatment ; complete freedom to the parents as to the choice of the latter.

Wednesday afternoon : (1) Dr. Bon (Brussels), **School Dental Service at Brussels ;** (2) Dr. Albin Lenhardtson (Stockholm), **The Co-operation of the Teachers, School Physicians, and School Dentists ;** (3) **The Part to be Played by the Dentist in the Schools.**

Thursday morning, August the 4th : (1) Mr. Versluysen (Antwerp), **The Importance of the Hygiene of Mouth and Teeth for the Preservation of the General Health of Children and Adolescents ;** (2) Dr. J. Ferrier (Paris), **The use of Boiled Water as a Drink : Effect on the Teeth and the General Condition ;** (3) Dr. Cunningham (Cambridge), **The Cambridge Dental Institute for Children.**

Thursday afternoon : (1) Dr. Cruet (Paris), **The Importance of the Hygiene of Mouth and Teeth for the Preservation of the General Health of Children and Adolescents.** After a long discussion the following conclusion was agreed to :

" On account of the general and technical knowledge required on account of their importance, this hygiene and its treatment can only be completely assured by a specialist."

Friday morning, August the 5th : (1) Dr. M. Roy (Paris) on **Half-yearly Inspection and Treatment of the Teeth of School Children ;** (2) Professor Jessen (Strassburg), same subject ; (3) Mr. H. Watson Turner

(London), **The Causes of Oral Sepsis and its Prevention**; (4) Mr. C. Edward Wallis (London), **A School Dental Clinic in London**; (5) Dr. Delguel (Bordeaux), **Necessity for the Supervision of the Teeth of the Children and Adolescents who are on a Diet of Milk or Slops.**

The following resolutions were carried: (1) "There must be a half-yearly inspection for school children, and dental cards should be affixed to the medical reports"; (2) "Inspection must be separate from treatment; for the latter the parent must be at liberty to choose his dentist"; (3) "Dental inspection must be made in the schools by a specialist."

Société de Pédiatrie, Paris.

June the 21st, 1910.

Surgical Treatment of Congenital Narrowing of the Biliary Passages.—M. Veau reported the case of a girl, aged 3½ years, who had painful distension of the abdomen for a fortnight, more marked on the right side, and febrile disturbance. A fluctuating tumour was discovered in the right flank. A diagnosis of hydatid cyst was made and an operation undertaken. A vertical incision was made over the most prominent part of the tumour, which, after cutting through the peritoneum, was found to be covered by adherent mesentery; a loop of intestine crossed it from above downwards and seemed fixed to it. Puncture drew off 1½ litres of dark green fluid like bile, and towards the end of the puncture a certain quantity of membranous material escaped. The tumour was then incised, and exploration of the cavity showed that the walls were thick and apparently of muscular structure. The relations of the tumour to the biliary passages and liver could not be exactly ascertained. The child got quite well. Cases of this kind are rare; the author was only able to collect twenty-four, in eleven of which surgical intervention was undertaken with two cures.

On Delirium in Tubercular Meningitis of Children.—M. P. Merklen, in discussing M. Mouriquand's communication at the last meeting, said that the delirium of infantile tubercular meningitis was not a systematic delirium in the ordinary acceptation of the term; it would be incompatible with the intellectual weakness connected with the illness. In certain cases there was at the same time exaggeration of automatic cerebral activity under the form of incoherent rambling, nightmares, hallucinations, and delirious ideas. The mode of deliriant reaction to the hallucinations had its origin in antecedent predisposition, either hereditary or acquired. This delirium is for the most part sad and depressing, but no exact rule can be laid down and sometimes the illness commences with maniacal excitement. The seat of the lesions is not the only factor in the delirium of tubercular meningitis; hypertension of the cerebro-spinal fluid and microscopic changes in the cortex play their part also. But it is none the less true that practically the occurrence of delirium means that the convexity in particular of the frontal lobes is implicated. The application of this rule, strengthened by the absence of basilar and bulbar symptoms, may lead to a precise diagnosis.

Syphilitic Onychia in Infants.—MM. J. Hallé and G. Railliet showed a girl, aged 1 year, in whom the nails, instead of presenting a slight convex transverse curvature, took the form of an almost complete cylinder, the two lateral borders tending to approach one another. They were amber-coloured.

Analgesia and Mutilating Whitlow.—M. André Thomas and R. Labbé showed a boy, aged $4\frac{1}{2}$ years, who from the age of $2\frac{1}{2}$ years was attacked with intermittent suppuration of the digital phalanges which ended in mutilation with atrophy or even total loss of the ungual phalanx. The child was robust and in good health. The ætiology is unknown.

Dwarfism of Suprarenal Origin (?)—MM. Variot and Pironneau showed photographs of a remarkable case, a girl, who, at 15 years, had the height of one of five, and the weight relatively still lower; the facial expression was old, there was hardly any hair, and the skull was small, the skin of the face wrinkled, withered, and parchment-like, and being almost devoid of fat showed up the malar prominences and maxillary depressions; the eyes prominent without eyelashes or eyebrows, the nose thin and prominent; the ears, without lobule, stood out abnormally. The whole facial expression resembled that of the traditional old witch. The thorax was short, the breasts undeveloped; the abdomen bulky and distended, so that the umbilical cicatrix was unfolded. There was a slight degree of dorsal kyphosis and lumbar lordosis. The upper extremities were covered with fine skin without any fat, otherwise normally proportioned. The fingers were enlarged at the joints like the dry arthritis of old persons, the nails reduced to small, horny scales. The lower limbs showed prominent epiphyses and a slight degree of incurvation. Over the whole of the body the skin was destitute of hair, even of lanugo; it was soft, supple, and slightly greasy to the touch. Its colour was generally brownish (*bistré*), especially on the trunk, abdomen, and roots of the thighs, where it was covered with brown spots, closely set, of indefinite outline and irregular form, and about a centimetre in diameter. The teeth were irregular; second dentition had apparently only just commenced, but the molars were already carious. The palatine arch was flat, the tongue small and pointed. The spleen was not felt. Pulse feeble, 130. Red corpuscles 4,050,000. The child was very intelligent, wrote and read well. The case could not be classed with those of ordinary thyroid insufficiency; myxœdematous symptoms were conspicuously absent. It was an open question whether the ovaries or suprarenals were concerned in it.

M. Apert thought that certain disorders of growth in connection with the development of suprarenal adenomata were beginning to be recognised; these were obesity, exaggerated hairiness of the face, arrest of development of the organism from the feminine point of view, and even pseudo-hermaphroditism when the adenoma occurred early. Several of these characteristics were reversed in M. Variot's case and favoured the supposition that this girl was attacked with an affection exactly the opposite to the "hyperepinephry" of the cases he had described, that is to say, with an insufficiency of the supra-renal parenchyma.

Two Cases of Appendicitis in Young Children.—Mme. Nageotte-Wilbouchewitch related two cases of appendicitis in children about two years of age. The diagnosis presented no difficulty; the seat of pain was as accurately localised as in patients who could describe their sensations;

several attacks had preceded those in which the diagnosis was made. One of the children came under observation the eleventh day of the attack and was not saved by operation. The other, although only operated on the twelfth day, made a complete recovery.

Paralysis of Hemiplegic Type in Epidemic Cerebro-spinal Meningitis.—MM. H. Richardière and E. Merle related the case of a girl, aged 3½ years, admitted in a state of coma, on recovering from which were observed the following multiple paralytic phenomena: First, paralysis of the right external motor oculi, which disappeared almost entirely after a few days. Second, an aphasic syndrome, the characters of which it was difficult to define owing to the child's age. This also disappeared in a fortnight. Third, a right hemiplegia which existed from the onset of the illness and presented all the characters of a cerebral paralysis; temporary participation of the face; absence of painful symptoms; absence of muscular atrophy, and disturbance of electrical reaction, followed by contractures, exaggerated reflex, and clonus.

M. Merle also gave statistics of nine cases of this disease with notes. Clinically, the majority of the cases presented a typical picture. He noticed, however, in one case an eruption of lenticular rose spots, like those of enteric fever, appearing on the seventh day, and disappearing completely in three days.

Two Cases of Crico-tracheal Stenosis, cured by Laryngostomy.—M. Guisez related these cases, one of a boy, aged 5½ years, who had worn a tracheotomy tube for two years, the other a girl, aged 4½ years, who had worn one eighteen months.

Two Cases of Foreign Body in the Bronchus in very Young Infants: Bronchoscopy.—M. Guisez related these. Case 1: A child, aged 2 years; fragment of raw chestnut in right bronchus. Case 2: Child, aged 12 months; rabbit bone in right bronchus. Both cases recovered after extraction of the body.

Peritoneal Complications of Scarlatina.—MM. A. Touraine and H. Fenestre related the case of a boy, aged 14 years, who was seized with an acute attack of appendicitis, so severe as to cause a large para-appendicular abscess and marked peritoneal reaction. He contracted slight scarlatina after operation, and at the time the rash came out all the symptoms of acute peritonitis, which subsided gradually with the disappearance of the rash. The fact stands out from several similar cases published, that symptoms of peritonitis may appear with the cutaneous eruption and follow the same course, as if the integuments and the peritoneum were attacked at the same time. This peritoneal enanthem seems to occur especially in subjects whose peritoneum has been previously affected by appendicitis, enteritis, or vulvo-vaginitis.

Anæmia with Globular Fragility.—M. Armand Delille reported the case of a boy, aged 5 years, with slight hæmolytic jaundice. Cases of this kind are not rare among children if sought for, and the globular condition, the cause of which is unknown, may explain a certain number of infantile anæmias. All degrees of it may be found, from intense anæmia with marked diminution of globular resistance, where the hæmolytic condition causes

intense splenomegaly with acholuric cholæmia, and slight forms, on the other hand, where there are only anæmia and subicterus without splenic reaction clinically appreciable. VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

The physiological and pathological growth of the infant (*'La Clin. Infant.,' August*, 1910, *p.* 462).—**H. Hubert** finds that in infantile atrophy during the first year and in the hypotrophy of the second, the development of the brain is not arrested and that of the skeleton very little; the muscular and adipose tissues are on the contrary notably diminished. It seems that when there is a defect of nutrition, the nervous and osseous systems take all that is requisite for themselves and leave nothing for the other systems. Lowering of body-weight in relation to normal is much more pronounced than diminution of height. This disproportion has a grave prognosis if the height increases and the body-weight remains stationary or is lowered. The increase in atrophic children is very irregular. Weight atrophy is more pronounced than statural atrophy, and if retarded increase is estimated solely by the scales an index of atrophy is obtained in excess of what really exists, so that infants would be considered atrophic who are only temporarily thin. The height, on the contrary, is stationary, and dominated by the skeleton, in accordance with Variot's rule that children are as old as their height and not as their weight. A large number of radiographs of the bones of the hand of children, both normal and atrophic, proves that the appearance of complementary osseous points at the extremities of the metacarpal bones takes place invariably at the time the height reaches 75 or 76 cm., whatever be the age of the infant, and never before.

VINCENT DICKINSON.

The hereditary and congenital causes of exceptional development (*'Med. Record,' July* 9, 1910, *p.* 48).—**E. L. Hunt.**—The causes which make posterity abnormal and unusual are largely introduced by man, whilst Nature's effort is always to return to the normal and usual. Of these causes the chief are defective heredity, tuberculosis and alcoholism. The ancestral taint most frequently takes the form of a defect of the nervous system, especially idiocy or insanity, but the mere presence of a neuropathic diathesis or unstable equilibrium may suffice, particularly in association with defective environment. Epilepsy is another important hereditary factor in the production of the exceptional child. Tuberculosis is the most important disease in this respect, and seems to transmit defective nervous tissue with greater ease than any other. The evidence of the importance of inter-marriage is conflicting, but probably consanguineous marriage is not in itself a cause of exceptional development. The influence of alcohol is powerful, by its degenerating effect on the body, transmitted frequently to the succeeding generations. The mental condition of the mother during pregnancy is of no importance in producing abnormal offspring, but shock and fright to the pregnant mother are known to have been influential in certain instances. The physical condition of the mother is of more moment. Abnormal con-

ditions prevailing at the time of the birth have been given too important a place in the ætiological list. FREDERICK LANGMEAD.

Should the tuberculous mother nurse her offspring? (*'Charlotte Med. Journ.,'* 1910, *p.* 383). —**C. P. Ambler** answers this question in the negative. The drain and strain on the mother are too great, although the milk from such a patient usually agrees with and nourishes the babe. The danger to the infant lies in the fact that tubercle bacilli are inhaled and swallowed. The infant should be taken out of the infected house and separated from the mother. J. ALLAN.

The relation between the beri-beri of the infant and the mother's milk (*'Sei-I-Kwai Med. Journ.,'* 1910, *p.* 525).—**C. Inagaki** and **Y. Nakayama** examined forty cases of beri-beri in sucklings, and found that the symptoms in the mothers were very slight and consisted of a tired feeling in the knees, a tendency to constipation and palpitation on going upstairs, while the physical signs were exaggeration of the knee-jerks, tenderness in the calf-muscles, and accentuation of the pulmonary second sound. Subsequently the mothers gradually developed the disease. Experiments on a frog's heart showed that when the infant has well-marked signs of beri-beri the mother's milk has the property of diminishing the cardiac contractions and even of stopping the heart in diastole, although the mother has very slight symptoms of the disease. The specific gravity of the milks of healthy and of beri-beri mothers is the same, and the salts in the milk when mixed with Ringer's solution and applied to the frog's heart do not affect it in any way. The writers conclude that the changes produced in the cardiac contractions are due to the presence of the toxin of beri-beri in the mother's milk, and that the quantity of the toxin is proportional to the severity of the symptoms in the nursling, and bears no relation to the severity of the symptoms in the mother. J. D. ROLLESTON.

The relation between nurslings' beri-beri and mother's milk (*'Sei-I-Kwai Med. Journ.,'* 1910, *p.* 529).—**C. Inagaki** and **M. Nemori**, in an investigation of an epidemic of beri-beri in Formosa, found that normal mother's milk never contains the substance which causes a change in the contractions of the frog's heart. Nurslings do not suffer from beri-beri as long as the beri-beri poison does not appear in the milk, although the mothers may show marked symptoms of the disease. On the other hand, when the nursling shows marked symptoms of the disease the mother's milk always contains the beri-beri poison, and the child gets worse and may die if kept on the same milk, but if fed on cow's milk, recovers. When the mammary glands are secreting the beri-beri poison the mother has usually no beri-beri symptoms, and the symptoms may appear some time after she has stopped nursing. The secretion of the poison is most marked if the mother is constipated, and decreases and disappears entirely under the influence of purgatives. J. D. ROLLESTON.

The use of lactose in the feeding of infants (*'Lyon Méd.,'* 1910, *No.* 9, *p.* 989).—**Péhu** and **Porcher** as the result of their experiments find that lactose is very useful in the feeding of infants: either of the different varieties may be used indiscriminately. It is entirely utilised by the organism in quantities of 18 to 36 grm. daily. At the commencement of the administration care should be exercised. In infants very different

degrees of tolerance exist, and it is probable that these individual variations are due to a more or less active secretion of lactose. Caution is especially necessary in the summer on account of the prevalence of digestive troubles at this time of year. Used in suitable doses lactose is an efficient intestinal regulator; it is laxative without being irritant, modifies the consistence of the stools, and renders their expulsion easy. It also increases the body-weight.

VINCENT DICKINSON.

On the use of other sugars than lactose in infant feeding (*'Lyon Méd.,'* 1910, *No.* 20, *p.* 1030).—**Péhu** and **Porcher** have made experiments on the use of saccharose, mannite, glucose, levulose, maltose, and raffinose. Given with the usual food and mixed with milk, in normal infants both levulose and glucose chemically pure have a certain purgative effect. Levulose has the more marked action of the two; in doses of 18 to 24 grm. daily it caused grey, fœtid, loose stools. One dose of 6 to 9 grm. is laxative, but not in the same way as lactose; the intestinal evacuation is less regular and less complete. Glucose, if chemically pure, has a better and surer action; with 4 grm. daily good stools are obtained in habitually constipated infants. It has been long known that honey is laxative, and that the injection of large quantities of raisins produces less solid stools and often true diarrhœa. Manna and mannite are also well established as laxatives or purgatives. Mannite in doses of 3 grm. daily produces a copious intestinal evacuation. Apart from the question of price mannite is a very useful medicament; it is not over sweet to the taste (like manna), and infants take it readily. Lactose and maltose have an almost equal effect on digestive processes. Both regulate intestinal excretion, and when given in suitable doses, without going beyond the limit of tolerance, they promote the expulsion of soft homogeneous stools. The use of saccharose or raffinose does not at first produce any marked change in the stools, but if their use is persisted in for four or five days in relatively large doses (36 to 42 grm. daily) constipation invariably ensues, intestinal evacuation becomes more difficult, and the stools dry and hard. In practice the cost of these sugars must be taken into account; levulose and raffinose are costly. Their use is therefore limited to two of them—cane-sugar and lactose. These two bihexoses are not replaceable one by the other, but each is indicated in definite cases.

VINCENT DICKINSON.

The soy bean as an article of diet for infants (*'Journ. of Amer. Med. Assoc.,' May* 21, 1910).—**Ruhräh** recommends the soy bean as a means of supplying protein in a digestible form in the case of infants for whom mother's milk is not available or the protein of cow's milk is unsuitable. Flour made from the bean contains protein 44·6 per cent., fat 19·4 per cent., cane-sugar 9·3 per cent., and no starch. Each ounce of the gruel flour yields about 13 grm. of protein and 120 calories. In summer diarrhœa and certain forms of intestinal disturbance a weak gruel (one to two table-spoonfuls to the quart) made from the bean or preferably from the flour is of great value; later, milk may be added with advantage.

T. R. WHIPHAM.

Anasarca from excess of chlorides in the diet (*'Ann. de Med. et Chir. inf.,'* 1910, *p.* 353).—**C. Leroux.**—A girl, aged 10 months, was brought to hospital with generalised anasarca. There was no cachexia, and only a slight amount of albumin was present in the urine. On inquiry it was found that for the last four months the child had been fed exclusively on

salted vegetable soup, of which she had been given 1–1½ litres daily. Milk diet with sweetened soup and sodium citrate solution were ordered, and in twelve days all the œdema had disappeared. J. D. Rolleston.

The normal blood-pressure in children (*'Corresp.-Blatt f. Schweiz. Aerzte,' May* 10, 1910).—**Seiler** has determined the normal blood-pressure in children at different ages, which will be of clinical value as no standard hitherto has been available. His results are as follows:

Age.	Minimum.	Maximum.
2–3 years	70–75 mm. Hg.	75–80 mm. Hg.
4–5 „	75–85 „	79–90 „
6–7 „	72–87 „	85–95 „
8–9 „	87–89 „	90–95 „
10–11 „	87–90 „	93–96 „
12–13 „	84–99 „	94–106 „
14–15 „	88–98 „	93–104 „
16–17 „	95–110 „	103–120 „

T. R. Whipham.

Circulatory failure in the acute infections of children (*'Arch. of Pediat.,'* xxvii, 1910, *p.* 332).—**J. Howland.**—Three distinct causes have been assigned for circulatory failure in the acute infections: (1) Anatomical changes in the heart. (2) Functional disability of the heart with or without anatomical change. (3) Vascular paralysis due to central influences. Experimental infection of animals with the diphtheria bacillus, pneumococcus, *Bacillus pyocyaneus*, and streptococcus, has shown that the chief cause of death is a vaso-motor paralysis. Howland and Hoobler made a series of observations on children as to the effect of intra-muscular injections of caffeine, camphor, and adrenalin on the blood-pressure in pneumonia. All three drugs raised the pressure, adrenalin more promptly than the rest, but its effect was evanescent. The best results were obtained with caffeine. Increase in blood-pressure began in five to ten minutes, reached its maximum in nearly half an hour, and was manifest for two hours or more. Camphor was satisfactory, but its action was less certain and prolonged than caffeine. Cold air raised the blood-pressure more constantly and satisfactorily than any drug, as was shown by moving patients on to the balcony, when there was a constant rise of 10–15 mm. This effect was due, not to the oxygen in the air, but to the reflex stimulation of the vaso-motor centre by the cold on the face and nasal mucous membrane. In support of this view is the fact that pneumonia cases treated out-of-doors did better in the cold months than in the warm. J. D. Rolleston.

Irregularities of the heart in childhood (*'Therap. der Gegenwart,' May*, 1910).—**Hirsch** finds that a relative hypertrophy in the walls of the arteries is not uncommon in older children and at puberty. Palpitations and oppression in the chest may also occur, but the blood-pressure is not materially raised. The condition is a growth-hypertrophy as a rule, though masturbation may produce a similar condition. The absence of a murmur and signs of cardiac dilatation and the fact that exercise does not aggravate the symptoms render an organic lesion improbable. Children are liable to a harmless arrhythmia in which the pulse is full and strong, diastole alone varying in length. With acceleration of the heart's action this irregularity becomes less marked, as abnormally long diastoles are then shortened. Arrhythmia due to organic disease is generally the result of extra systoles,

although the latter may sometimes be due to an organic nervous affection. The arrhythmia in tuberculous meningitis is of the infantile type and seems to be due exclusively to diastoles of varying length. Heart murmurs may also be heard without there being any organic lesion; thus Lüthje found systolic murmurs in 623 out of 854 cases, but only 2 per cent. had certain signs of valvular disease. Beyer also found the same in 352 out of 830 school children, most frequently in girls. In 253 cases the murmur was audible during repose, but in the others only after exercise. In only 1·4 cases were signs of heart disease detected. Hirsch explains these accidental murmurs as due to physiological and anatomical peculiarities of the circulation in children, such as a more rapid flow of blood in the anæmic or a slight transient muscular mitral insufficiency. T. R. Whipham.

Cases of congenital heart disease (*'St. Thomas's Hospital Reports,' vol.* xxxvii, 1908, *p.* 83).—**G. G. Butler.**—There were seven cases. Cyanosis was marked in all except one. Clubbing of the fingers and toes was marked in two, absent in five. Blood-counts were performed in three cases: Female, aged 23 years, reds 5,000,000. Male, aged 5 years, reds 7,500,000; hæmoglobin 105 per cent. Female, aged 18 years, reds 5,000,000; hæmoglobin 84 per cent. Of fatal cases: Female, aged 8 months. Bronchitis since birth; cyanosis marked; no clubbing of fingers; coloboma of iris and choroid. Systolic murmur all over præcordium, best heard in pulmonary region and conducted into the neck. Post-mortem: Intense broncho-pneumonia; patent ductus arteriosus. Male, aged 13 months, with a history of weakness and lividity since birth. Cyanosis; no clubbing; loud systolic murmur over pulmonary area. Died during right-sided fit. Post-mortem: Heart normal size; pulmonary artery size of a quill, opening without valves into upper right hand corner of the ventricle. Patent ductus arteriosus. Upper third of interventricular septum patent; aorta opening into both ventricles. Foramen ovale patent. Cortical veins and the superior longitudinal sinus were thrombosed. Entire brain softened and pulpy. Left middle cerebral and left anterior cerebral arteries thrombosed.

James E. H. Sawyer (Birmingham).

Pericarditis in childhood (*'Pediatrics,'* xxii, 1910, *p.* 353).—**Poynton**, in the course of his remarks on the three forms of pericarditis, rheumatic, suppurative, and tubercular, urges the use of the term "rheumatism" in a sense corresponding to the term "tuberculosis," as much of the life-history of rheumatism in childhood turns upon the smouldering of the infection in the tissues. He states that there is a great vital resistance to rheumatism and to tuberculosis, also a "damping down" in both diseases, and that, just as when tuberculosis gets a sufficient hold upon a patient it cannot be exterminated, so in rheumatism there are many cases which are never really free from exacerbations of the original infection. He points out that in general pericarditis there is often little pain, also that in childhood paracentesis pericardii is rarely required. Suppurative pericarditis, a very fatal disease, is generally pneumococcal in origin; there is a multiple infection; over 90 per cent. are associated with empyema, pneumonia and pleurisy, but he does not think that pericarditis is secondary in the sense that there is direct extension. As a contrast to rheumatic pericarditis it is a disease of very young children (under four). Tubercular pericarditis, he thinks, is rare, but not so rare as thought by some; it may be divided into two groups: in one there is much clear or blood-stained effusion; in the other there is dry

pericarditis with friction. Recurrent serous effusions are frequent, and all the cases he has traced to the end have died of tubercular meningitis.

J. E. Bullock.

Aortic regurgitation in an infant (*'Lancet,'* 1910, II, *p.* 802).—**W. Ansley-Young** records a case in a boy, aged 18 months, whose mother, aged 28 years, had had two attacks of rheumatism, the first six years and the second two and a half years previously, without apparent effect on the heart. It is uncertain whether the child's lesion was due to endocarditis *in utero* or to a congenital malformation of the aortic valves. The only other child, a girl, aged 5 years, had a normal heart. J. D. Rolleston.

Infection from Bacillus hæmophilus in infants and sucklings (*'Clin. Med. Ital.,'* *p.* 81, 1910).—**G. Menabuoni** describes three typical cases in detail. Since its description in 1892 by Pfeiffer and Bruschettini as the cause of influenza the *Bacillus hæmophilus* has gained in importance, since apart from the question whether it is the true agent in this disease, it has been established that by localising in different organs of the respiratory system it is capable of producing the most varied affections. From the author's cases there seems no doubt that septicæmic conditions may be caused by the *Bacillus hæmophilus*, towards which new-born infants and sucklings have a marked susceptibility. Apart from a few severe cases reported in medical literature the great majority have been observed in infants under the age of one year, and the cases reported by the author were in two new-born infants and one suckling, and confirm the hypothesis that the organism at this tender age affords a favourable soil for the *B. hæmophilus* as it does to other kinds of pyogenic germs. Vincent Dickinson.

Hæmorrhagic disease of the new-born (*'Amer. Journ. of the Med. Sciences,'* *July*, 1910).—**Schwartz** and **Ottenberg** draw attention to the delay or absence of coagulation in the hæmorrhagic disease of the new-born and describe two cases. The first case was probably syphilitic and the child was nursed at a suppurating breast. After seven days multiple hæmorrhages began to appear and the blood showed a total absence of coagulation. The injection of serum had no effect on either the coagulation or the hæmorrhages and transfusion from the father was undertaken. At the end of the transfusion the child's coagulation-time was the same as that of the father—three and a half minutes. The coagulating power subsequently became less again and the child died eight days later, though not exsanguinated. The second case, also syphilitic, had similar hæmorrhages with prolonged coagulation-time, and the blood was sterile. Death occurred eight hours after the child was seen. The authors are of opinion that impaired blood-coagulation is the cause of uncontrollable hæmorrhages in the new-born, and that this is probably due to destruction, or interference with the production of thrombokinase. Bacterial infection is the commonest underlying cause of the disease, but syphilis alone can cause it without bacterial infection. The value of serum injections is doubtful, but transfusion should be tried when ordinary measures have failed. T. R. Whipham.

A hæmophilic pedigree (*'Indian Med. Gaz.,'* *June*, 1910, *p.* 215).—**Malcolm Macnichol** records two families of "bleeders" occurring in a small community of under one hundred persons in Bengal, although hæmophilia is said to be extremely rare in India. In one family seven examples of this condition occurred in three successive generations, transmission being in the usual way through the unaffected females. Of this family a genealogical tree is given. Reginald Miller.

Clinical signs of hypertrophied thymus (*'Presse Méd.,' April* 9, 1910). —**D'Oelsnitz** details the symptoms and signs observed in five cases of enlargement of the thymus. The children were between the ages of six months and three years. The breathing is suffocative, but differs from that of croup in that the chest changes its shape during inspiration, the sternum protruding and the lateral diameter diminishing. The dyspnœa is also increased by the recumbent position and by hyperextension of the head. In some cases the early symptoms resembled those of laryngismus stridulus, so that in every case of persistent and marked laryngismus stridulus it is advisable to examine for possible enlargement of the thymus. The temperature is sometimes raised. In two cases there was slight persistent cyanosis of the face, and in one abnormal tension of the fontanelle. On crying the superficial veins in the neck become engorged. An important sign is the asymmetrical protuberance of the sternum and first two costal cartilages on the right side on inspiration. This may be found on palpation and by inspection from the side as the child lies on its back. There is dulness over the protuberance, and the X rays show an abnormal shadow in this situation.

T. R. Whipham.

Hæmorrhage into the supra-renals due to chloroform (*'Bull. de la Soc. de Péd.,' March*, 1910).—**Savariaud, Pellot** and **Tinel** report the case of a boy, aged 8 years, who was anæsthetised with chloroform for an operation on a ventral hernia eighteen months after appendicectomy. The operation proceeded smoothly, but soon afterwards the patient became restless and showed signs of acute intoxication, viz. green diarrhœa and vomiting, profound depression with a lowered blood-pressure, tachycardia and a tendency to erythema. Death occurred on the sixth day. The supra-renals were the seat of extensive hæmorrhage and all the organs were found to be congested.

T. R. Whipham.

A case of Addison's disease in a boy, aged 12 years (*'St. Thomas's Hospital Reports,' vol.* xxvii, 1908, *p.* 114).—**G. G. Butler.**—There was sudden onset of acute abdominal pain three days before admission, followed the next day by frequent vomiting. Admitted in a delirious condition with pupils widely dilated. Pulse very small and soft. Died almost immediately. Post-mortem: No pigmentation. Left supra-renal caseous and several caseous foci in right supra-renal. Peritoneum healthy, but all mesenteric glands swollen and yellowish. Solitary follicles throughout intestines were swollen, but no ulceration. Ulceration present in cæcum, which appeared tuberculous. Culture from spleen: *Staphylococcus albus.*

James E. H. Sawyer (Birmingham).

Addison's disease in children (*'Thèses de Paris,'* 1909–10, *No.* 276).— **G. Chemin** has collected fifty-five cases, including a personal one, in children whose ages ranged from seven days to sixteen years. The disease is rare in childhood. Most of the cases recorded in children have occurred at puberty or in adolescence: only six have been noted within the first decennium; thirty-two were in boys, and twenty-two in girls. Tuberculosis of the suprarenals, which is by far the most frequent cause, may be primary, but is usually secondary to infection of the lungs, peritoneum, intestines, genitals, or bones. The lesions may be unilateral, but usually both organs are affected. In a few cases children who had all the clinical symptoms of the disease showed no lesions of the suprarenals post mortem. Some cases have been recorded in which Addison's disease

was associated with atrophy or congenital absence of one suprarenal. Addison's disease in the child is distinguished from that occurring in the adult by the following symptoms: frequent pigmentation of the hair, diarrhœa, incontinence of urine, and convulsions. Its course is generally shorter than in adults, rarely exceeding two years. Death often occurs suddenly. The diagnosis rests on the presence of three cardinal symptoms: asthenia, gastro-intestinal disturbance, and melanodermia. The chief causes of error are arsenical poisoning, malaria, pediculosis, and tuberculous pigmentation. The last, however, may be associated with Addison's disease. Death is the rule, but in exceptional cases improvement and even definite recovery may take place. Chemin's own case was in a girl, aged 13 years, in whom improvement followed the administration of suprarenal extract associated with the injection of cacodylate of soda. The asthenia and gastro-intestinal disturbance disappeared, but the melanodermia was not affected. The issue of the case is not recorded. J. D. Rolleston.

Otology, Rhinology, and Laryngology.

Routine otoscopy in the febrile affections of infancy and childhood (*'The Cleveland Med. Journ.,' June*, 1910, *p.* 430).—**Maschke** takes up the frequency and importance of otitis media in infancy and early childhood and goes briefly into the literature. He cites eight cases showing the importance of examining the ear in all doubtful cases of febrile affection, and he urges the grave necessity of routine otoscopy in order to save future deafness, mastoiditis, meningitis, etc. Macleod Yearsley.

A case of sarcoma of the petrous bone (*'Brit. Med. Journ.,' June* 25, 1910).—**W. H. Bowen** and **H. B. Carlyll** record an interesting case in an infant (sex not stated), aged 9 months. Admitted for left ear polypus and discharge. Died about ten weeks later, the growth increasingly rapidly. Mastoid operation was performed. Histologically, the tumour was a "typical round-celled sarcoma." Macleod Yearsley.

New operation for prominent ears (*'Surg. Gyn. and Obst.,' June*, 1910). —**Luckett** describes an operation for the purpose of reconstructing the fold of cartilage known as the anti-helix in cases in which the ears are turned forwards. The same principle is also applicable to the superior crus of the anti-helix in cases of "drooping ears," or to both together if necessary. A crescentic incision is first made through the skin opposite to the line of the intended new anti-helix, and the inscribed portion of skin is removed. The edges of the skin are then freed from the cartilage and retracted, and a similar crescentic segment is removed from the cartilage. The cartilage and skin are sutured separately, care being taken in the method of suturing the former. The cartilage suture is passed from the cranial side from within outwards and back again so as not to perforate the skin on the external surface; it is then carried over the excised portion, and passed on the other side from within outwards and back again like a Lembert suture in such a way that when it is drawn tight and tied the flat surfaces of the cartilage, and not the edges, will be in apposition. The edges have been turned forwards or outwards to form the anti-helix and the whole helix is thus approximated to the cranium. Four or five interrupted sutures are usually enough for the cartilage. The skin is finally sutured with horse-hair. The width of the crescentic segment of the cartilage to be removed depends upon the size of the ear and the thickness of the cartilage.

T. R. Whipham.

A case of pyæmia of otitic origin with cerebral abscesses (*'Rev. Hebd. de Laryngol., etc.,' February* 6, 1909).—**M. Nicholas's** patient was a boy, aged 7½ years, the subject of adenoids. Fever, earache, and bulging right membrane were treated by paracentesis. Later he became drowsy and vomited, complained of frontal headache and intense ear pain. Four days later an abscess appeared at the root of the neck. This was opened and a radical mastoid operation performed. He died seventeen days later, and the autopsy revealed septic thrombosis of the lateral sinus, an abscess in the right temporal lobe and one in the third right frontal convolution.

MACLEOD YEARSLEY.

Two cases of meningitis complicating middle-ear suppuration, with recovery (*'Edinburgh Med. Journ.,' February*, 1910, *p.* 142).—**A. Logan Turner** relates these interesting cases, one in a boy, aged 13 years, the other in a boy, aged 16 years. In the former a serous meningitis was drained by an exploratory operation upon the cerebellum. The second case was treated by lumbar puncture and anti-streptococcus serum, injected both subcutaneously and into the spinal canal. MACLEOD YEARSLEY.

Three otogenic brain abscesses (*'Arch. f. Ohrenheilk.,' Bd.* LXXVIII, *Heft* 1 *and* 2, *p.* 35).—One of the cases described by **Oskar Levy** was in a girl, aged 2½ years. The abscess followed left chronic ear discharge and was in the temporo-sphenoidal lobe. She recovered with persistent right facial paresis. She also had paresis of the left arm and leg, ascribed to serous meningitis of the right cerebral hemisphere (side opposite to affected ear). MACLEOD YEARSLEY.

The deaf child from the view-point of the physician and of the teacher (*'Glasgow Med. Journ.,' July*, 1910, *p.* 1). –**James Kerr Love,** in a long paper, gives an excellent historical *résumé* of this question. The chief points discussed in the article are: (1) The education of deaf children without previous clinical examination and classification is wasteful and inefficient. (2) The massing of deaf children in institutions should be avoided, except in the case of the mentally defective deaf. Necessitous deaf children should be fed, clad, and, where necessary, boarded out at the expense of the educational authorities. In these respects they need the same treatment as necessitous hearing children. (3) The education, but not the instruction, of deaf children should begin as soon as the fact of deafness is known, and the mothers should be the first teachers. Unless the speech habit be acquired before the age of five years the best oral results can seldom be got. In the opinion of the author the best man to carry out this work is the aural surgeon. J. ALLAN.

Congenital occlusion of the posterior nares (*'Transvaal Med. Journ.,'* 1910, *p.* 206).—**Koch** records a case in a girl, aged 11 years, who had also congenital morbus cordis. During the first months of life her mother had frequently to open her mouth to prevent her suffocating. Anterior rhinoscopy showed a hard bony diaphragm, which could be felt by a sound, dividing the pharynx from the nose. After removing her adenoids Koch made a square opening in the bony diaphragm through the left nostril and kept the opening patent with iodoform gauze. The child was then able to breathe freely through her left nostril. The right choana was to be dealt with subsequently. Congenital obstruction of the nose is very rare. There are only forty-one other cases on record. J. D. ROLLESTON.

Two unusual cases of maxillary sinusitis (*'Annales de Méd. et Chir. Inf.,'* 1910, *p.* 207).—**Guisez** describes these. (1) Child, aged 6 years, with osteo-myelitic maxillary sinusitis following dental caries. Operation revealed a widespread necrosis of the superior maxilla. Septicæmia followed, and death from thrombosis of the ophthalmic vein and cavernous sinus. (2) Child, aged 4 years; osteomyelitic sinusitis following dental caries. This patient coughed up thick pus. Transillumination showed no shadow. Puncture gave no result, the sinus being double (as shown by subsequent operation), and the antero-internal division was healthy.

MACLEOD YEARSLEY.

Adenoids; their influence upon the mental condition (*'New York Med. Record,' July* 30, 1910, *p.* 213).—**Koppel, Eagleton** and **Wilson** discuss this question. Koppel pleaded the advisability of caring for cases of adenoids as soon as possible. At one school in Jersey City fifty cases all were below the mental average at their respective ages. Eagleton pointed out the association of choreic conditions with adenoids, and alluded to one case of Mongolian mental deficiency which had shown marked improvement after an adenoid operation. MACLEOD YEARSLEY.

The care of children after an operation upon the tonsils and adenoid tissue (*'The Cleveland Med. Journ.,' April,* 1910, *p.* 256).—**Ingersoll** points out the anatomical peculiarities of the child's naso-pharynx, and dwells upon the improvements in the technique of tonsil and adenoid operations. He advises attention to the following points after operation: (1) Remaining in bed for two days. (2) Teaspoonful doses of cold water every five minutes after the operation. (3) No food until the following day (presuming the operation is done in the afternoon). (4) The third day after operation, fresh air, if the weather is favourable. (5) Hot applications or ice-bags to the ears, if there be otalgia. Gargles and sprays are prohibited. MACLEOD YEARSLEY.

Tonsil research (*'New York Med. Record,' July* 9, 1910, *p.* 56).—**R. B. Faulkner** discusses this question and reviles surgery generally. He criticises Ballenger's indictment of the tonsils and considers complete ablation too severe, and makes the remarkable statement that "many die from tonsil operations!" The long-exploded bogey of wounding the internal carotid artery is paraded in all its grisly terrors. A long list of post-operative complications is given, each of which is referred to as if it had claimed its millions of victims instead of its hundreds. The paper reads as if operations upon the tonsils were the most dangerous in surgery.

MACLEOD YEARSLEY.

The tonsils as sources of general infection (*'The Cleveland Med. Journ.,' July,* 1910, *p.* 534).—**T. A. Burke,** speaking of the whole tonsillar belt—Waldeyer's ring—urges its careful consideration, remarking that the tonsil is of greater clinical importance than the appendix; and that it causes more suffering and more deaths. MACLEOD YEARSLEY.

Primary streptococcus diphtheria (*'New York Med. Record,' August* 13, 1910, *p.* 276).—**Orgel** analyses one hundred cases in private practice and summarises as follows: (1) The severe form of primary streptococcus diphtheria occurs oftener than we have been led to believe. (2) Complications of suppuration of the cervical glands occur frequently. (3) Acute exudative nephritis occurs as a complication in all severe cases and in some becomes chronic. MACLEOD YEARSLEY.

A case of congenital cyst of the soft palate (*'Monats. f. Ohrenheilk.,' Year* 44, *No.* 3).—**E. Bergh** describes a baby boy, aged 7 months, with restless sleep, difficulty in breathing, and cough. With deep inspiration a white body came into view behind the soft palate. It was removed with scissors from the posterior aspect of the uvula, to which it was attached by a pedicle. It was the size of an almond, and proved to be a thin-walled cyst lined with pavement epithelium and containing a thin fluid.

MACLEOD YEARSLEY.

Cyst of epiglottis (*'The Laryngoscope,' September*, 1909, *p.* 704).—**J. C. Beck** reports the case of a child, aged 5 years, who was admitted with urgent dyspnœa, which required immediate tracheotomy. The diagnosis made was either papilloma or myxoma with œdema of the glottis. Some weeks later, by the direct method, an attempt was made to remove the growth with a snare; it, however, ruptured during removal. As much of the wall as possible was therefore removed and the cavity cauterised. Seven months later when the child was seen it was found that a recurrence had taken place; the cyst was therefore removed by external pharyngotomy.

GEORGE N. BIGGS.

Foreign body in the larynx; report of a case (*'The Cleveland Med. Journ.,' June*, 1910, *p.* 437).—**Monson** reports the case of an infant (female), aged 6 months, in whom a piece of tinfoil remained lodged in the larynx for three months, the child dying some few days after a low tracheotomy had been performed.

MACLEOD YEARSLEY.

Date-stone in trachea (*'Canadian Journ. of Med. and Surg.,' July*, 1909).—**D. J. G. Wishart** describes the case of a boy, aged 4 years, with tracheal tugging and laryngeal obstruction. The trachea was opened without relief to the symptoms, so curved forceps were introduced and the mucous membrane irritated. An expulsive cough followed and a date-stone was expelled.

MACLEOD YEARSLEY.

School Hygiene.

Medical inspection of school children (*'Edinburgh Med. Journ.,'* 1910, *p.* 43).—**James Dundas,** writing on certain aspects of school medical inspection, expresses the following opinions: Medical inspection of schools can be most usefully administered from the medical officer of health's office, and the medical officer of health should be the school medical officer. This arrangement is to be preferred to that which involves dual authority. In some districts part-time medical inspectors, who are also in general practice, may act as assistants to the supervising officer, but as a general rule the scheme could be more efficiently and economically carried out with whole-time assistant medical inspectors. The logical sequel of inspection is treatment. The author thinks it is the bounden duty of the State to do something in the matter, and he suggests that in the meantime treatment should be strictly limited to those conditions which demand prolonged absence from school or in which parents are too indifferent to take action. In medical inspection the active co-operation of teachers is invaluable, and the goodwill of the parents should be earnestly solicited. In the concluding paragraph the author answers the question, "Is the game worth the candle?," emphatically in the affirmative.

J. ALLAN.

The use and possible abuse of athletics during the period of growth and development (*'Edinburgh Med. Journ.,'* 1910, *p.* 391).—**T. M. Burn-Murdoch**, at a meeting of the Edinburgh Medico-Chirurgical Society, March 2, 1910, opened a discussion on the above subject. The importance of regulated gymnastics along with more strenuous athletic exercises cannot be over-estimated, and should always be attended to at school. Physically, intellectually and morally, boys and girls can be benefited. Abuse of athletics may occur, but such is very rare and is to a large extent preventable. The following recommendations to assist in lessening possible abuse are given: (1) Medical examination of boys and girls. This would ensure the detection of defects and lead up to— (2) Their classification for exercise. Physical ability should form the basis for classification. (3) Proper clothing. Strict rules as to changing and drying of clothes should be enforced. (4) Relation of exercises to meal hours. Hard exercise should never be taken for at least an hour after meals. (5) Special caution as to resumption of exercise after illness. (6) Supervision of exercises by games-masters and carefully selected school captains and prefects. (7) Character of exercises. Military training and cadet corps, and runs, notably so-called distance and cross-country runs, are especially important. The speakers who followed subscribed generally to the principles given above, and testified to the great value of athletic exercises under medical supervision.

J. Allan.

The training of teachers in hygiene (*'Edinburgh Med. Journ.,'* 1910, *p.* 513).—**W. B. Drummond** gives a short account of his work as medical officer and lecturer on hygiene, Edinburgh Provincial Training College. The aim of the course of instruction in hygiene is definitely practical. What is intended is that the students should be taught to observe children; that they should learn to form judgments as to their state of health and nutrition; that they should learn to recognise the signs of fatigue, of debility, of nervousness; that they should become acquainted with the more frequent disorders of childhood, especially those which interfere with their own work as teachers (*e. g.* adenoids, deafness, defective vision); that they should learn to appreciate the dangers to which children are exposed in school—from faults in the school building (bad ventilation, bad lighting, etc.), from faults in the school work (too prolonged mental strain, too fine sewing, bad postures, etc.), from faults in their neighbours (infection and contagion). Moreover, in the work of medical inspection, it is necessary that the teacher should give some assistance to the medical examiner, and therefore the teachers are taught how to weigh and measure children and to make and record other observations. It is not intended to make the student "a kind of doctor," but it is hoped that he may be helped to recognise when a doctor's advice is needed. Systematic lectures are given, but these are not so important as the practical instruction. The author thinks that the course of hygiene should be given in the second year, as by that time the students will have had some experience in teaching, and will be better able to realise the practical importance of the matter and to make observations on children. The routine of the course adopted by the author is detailed. J. Allan.

Ventilation in schools (*'Medical Record,' July* 30, 1910, *p.* 173).—**W. A. Evans** emphasises the importance of efficient ventilation in schools in maintaining good health and intellectual vigour among the scholars. He points out that the air in the Chicago schools is too hot and too dry. The

temperature has ranged from 70° to 80° F., the humidity has been 30 to 40. Objectionable odours are met with in certain schools in the poorer parts of the town and in many schools on rainy days. The Chicago schools are heated and ventilated on one system, the system employed being the Waters: 1800 cubic feet of air per pupil per hour are pumped in. The result is not very satisfactory, and it has been found that the children situated at the back of the room do not get a very good supply of air. The author makes the following recommendations: (1) Reduction of the temperature of the rooms to a maximum of 68° F. (2) Raising the humidity to 60 or 70. (3) Blowing out the air of the rooms at stated intervals, and this can best be done by raising the windows and allowing the air to blow briskly through. (4) Decreasing the dust content of the air of the school room as much as possible. (5) Introduction of the air into the room so as to keep the expired air as much separated from the fresh air as possible Details are given as to how these recommendations can be best carried out.

J. Allan.

Healthy and unhealthy types of children; their eugenic significance (*'Journ. Roy. Inst. Public Health,'* 1910, *p.* 219).—**J. Lionel Taylor** makes a plea for careful investigation of this subject on scientific lines. It is claimed that the following four lines of research are necessary: (1) The individual recording of cases of imperfect functioning of children in good surroundings, this being the one reliable test for inherited defect. (2) The separate collection of evidence to discover if infectivity and susceptibility, whether acquired or inherited, to disease are distinct tendencies. (3) The careful recording of disease susceptibility in different patients as measured by the individual virulence of the course of the disease in each patient and his or her relatives and not by its collective prevalence in the patient's family. (4) To inquire into the causes of vigorous and ailing states, and discover how far longevity and general disease susceptibility are related to, or independent of, either.

J. Allan.

The control of the acute infectious fevers amongst school children (*'Journ. Roy. Inst. Public Health,'* 1910, *p.* 152).—**Ralph P. Williams** briefly discusses the principal factors in the spread of these diseases under the following heads: (1) Personal contact; (2) vitiated atmosphere; (3) low age-limit of school attendance; (4) the system of payment of government grant on the basis of attendance; (5) the use in common of pens, slates, pencils, etc. He then gives a *résumé* of the chief means of control, and lays stress on the under-mentioned points: (*a*) The removal of all conditions likely to diminish the vitality of the child, and thus render him more liable to infection; (*b*) the importance of personal contact in the spread of these diseases; (*c*) increased knowledge of early symptoms—lectures to teachers and parents; (*d*) prompt notification to school medical officers, whose work is in close correlation with that of the medical officer of health; (*e*) thorough disinfection of the school after exclusion of infected children.

J. Allan.

The control of the commoner infectious diseases of school children (*'Journ. Roy. Inst. Public Health,'* 1910, *p.* 142).—**C. J. Russel McLean** makes the following suggestions, among others, as to methods of control. All children under five years of age should be excluded from infant depart-

ments. Children absent from school on account of illness should not be re-admitted until a medical certificate is produced, showing the child to be safe as regards infection. In a few instances the author has tried a class for "contacts" held in a separate class-room and with special hours for assembling and dismissing, but this arrangement did not work satisfactorily. The exclusion of a whole class from school on the appearance of the first case of infectious disease is theoretically a good plan, but it is impracticable in widely separate districts. The same applies to the visiting of children absent from school on account of illness, and who are unattended by a medical man, either by the medical officer of health or the school medical officer. The further erection of two-bedroomed houses should be forbidden by statute law. Teachers ought to have some knowledge of the early symptoms of infectious diseases and should co-operate with the health authorities. Disinfection of the school should not only be carried out after an outbreak of infectious disease, but there should also be regular and systematic cleansing and disinfection of the school rooms, fittings and materials, including books, papers, slates, etc. School closure (partly or wholly) may be necessary. J. Allan.

Reviews of Books.

So-called Congenital and Early Acquired Rickets (Über Sogenannte angeborene und über frühzeitig erworbene Rachitis). By Dr. E. Wieland. Berlin: S. Karger, Karlstrasse 15, 1910. Price 7 marks.

The above embodies the researches and opinions of E. Wieland, and is the exposition of his view that "there is no such thing as congenital rickets." He gives the clinical history of 130 children at periods, immediately after birth, between the fourth and tenth month of life, and finally at the end of the first year, in support of his conclusion that rickets is always a disease of extra-uterine life, that at the time of birth there are never any clinical symptoms indicative of rickets, and that "congenital rickets" cannot be shown to be a clinical entity.

The book is divided into three sections, dealing respectively with clinical and histological researches and congenital softening of the cranium.

In opposition to the view of Kassowitz that there is a direct placental transmission of the toxin of rickets to the child, Wieland considers that the cause of the disease must be sought in conditions which affect the organism in the course of its extra-uterine development, these conditions being chemical rather than toxic. Associating cranio-tabes with rickets rather than with syphilis, he concurs with other writers in the view that the behaviour of infants towards rickets is quite different from that towards syphilis. He says: "In syphilis the toxin can pass over by way of placental circulation and directly infect the embryo, but in rickets there can at the most be the transmission of an increased predisposition to a later, that is, an extra-uterine tendency to rickets, through the germ-cells in the parent, out of which the embryo is produced *in utero* . . . What may be transmitted to the embryo by the parents, especially by the mother, is most probably not rickets, but the predisposition to the disease."

We think that Wieland's book establishes the fact that there are usually no clinical symptoms or anatomical conditions by which rickets can be

diagnosed immediately after birth, neither are any such conditions latent, but he does not direct attention to the occasional ante-natal disturbance of metabolism on the part of the mother, which may lead to rickets at birth. The table of contents is so complete that no index is necessary, there are seven full page illustrations of microscopic sections of normal ossification and of syphilitic osteochondritis, which we think are rather too diagrammatic; the paper cover and imperfect stitching detract from the lasting character of the book.

Medical Examination of Schools and Scholars. Edited by T. N. Kelynack, M.D., with an introduction by Sir Lauder Brunton, Bart. London: P. S. King & Son, 1910. Price 10*s.* 6*d.* net.

A thoroughly practical guide for the school medical officer, which should also be read by all school teachers, those interested in physical education, and social reformers. Every aspect of school hygiene has been dealt with by well-recognised authorities and experts, thirty-six of whom have contributed to the work. A full account is also given of the medical inspection of school children throughout the British Isles, the Colonies, the United States of America, and such progressive countries as Germany, France, Norway, Sweden, Denmark and Switzerland. The book contains many valuable suggestions for making the best use of our present inadequate machinery for rearing a new generation of healthy citizens. The index and bibliographies are good.

Obituary.

Eduard Heinrich Henoch.

We regret to announce the death of Prof. Henoch, which occurred at Dresden on August the 25th, a little more than a month after his ninetieth birthday. He was born on July the 16th, 1820, graduated at Berlin University in 1842, was appointed professor in 1858, and director of the Children's Department of the Charité in 1872. Three years before his retirement in 1893 he was the recipient of a 'Festschrift,' edited by Prof. Baginsky, containing contributions from notable pædiatrists of all countries. His classical 'Lectures on Children's Diseases,' which were first published in 1881 and reached the tenth edition in 1899, are well known to English readers by Dr. John Thomson's translation in the New Sydenham Society's publications. The form of purpura with which his name is usually associated, characterised by vomiting, intestinal hæmorrhage and colic, was described by him in 1874. The rapidly fatal form of purpura, which he named *purpura fulminans*, was described by him in 1887. In addition to an original work on abdominal disease, published in 1852, he translated in 1846 Budd's 'Diseases of the Liver,' and edited a German version of West's 'Lectures on the Diseases of Infancy and Childhood' in 1872.